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## A FAMILY DIET OF LOW COST

### 1. INTRODUCTORY

In 1941 we started a series of surveys intended to provide a gauge of the changes in cost of a ‘ human needs ’ diet since Mr. Seebohm Rowntree carried out his researches in the mid-thirties. The material for our surveys was collected in Oxford, as a rule in the spring and in the autumn of each year. For technical reasons, the autumn survey had to be omitted in 1947, and our last published paper on the subject considered the situation in April of that year. Since then the supply of food to the general public has undergone considerable changes; in particular, all the main energy foods were rationed in April 1948, owing to the inclusion in the rationing system of potatoes from November 9th, 1947.[1] This, obviously, increased the problem of satisfying the appetites of a family of hearty eaters for a housewife who had to provide all the meals at home, especially if she had to manage on a very small income.

However, in some ways catering for a family was easier in April 1948 than it had been in April 1947. For in the early part of April 1948, when our survey was carried out, fresh vegetables other than potatoes were much more plentiful than they had been during that period of 1947, after the hard and prolonged winter of 1946–47, and there was further a good supply of herrings and kippers in the shops, which twelve months earlier had also been very scarce. From April 1946 to April 1947, the weekly cost of a ‘ human needs ’ diet for a family of 5 persons—husband, wife, and 3 children of school age[2]—had risen by 5s. 8d., from 37s. 6d. to 43s. 2d.; in April 1948, the cost of a similar though not identical diet was found to be 42s. 11¾d., *i.e.*, it required an expenditure slightly less than in April 1947. The diets surveyed in this series are intended to convey an idea of the minimum cost at which a skilful housewife could actually feed her family; it is therefore not possible to simply compare changes in the cost of identical foods from period to period, irrespective of changes in rationing and in the general availability of specific foods.

In the autumn of 1936, the weekly cost in Oxford of Mr. Rowntree's ‘ human needs ’ diet for a family of 5 persons was 23s. 5d. In March 1941, we found an equivalent diet to require a weekly expenditure of 33s. If we express the cost of the diet in 1936 by 100 the index for the diet in the spring of 1941 stood at 141. By April 1946, it had gone up to 160; in April 1947, it was 184, and in April 1948, it was 183. In making these comparisons with Mr. Rowntree's ' human needs ' diet two things have, however, to be borne in mind. First, the diet as compiled by us allows for the consumption of more milk, and that of a better quality; for not only has the general supply of milk in schools raised the intake of milk of poor families with children, according to more recent improved standards of nutritional requirements, but also the domestically consumed milk is now as a rule fresh full cream milk, while Mr. Rowntree's diet only included skimmed tinned milk. Secondly, the introduction of rationing has entailed a greater standardization of foods. Differences in quality have largely vanished, with the result that while poor people now buying standard foods at standard prices pay disproportionately more for them well-to-do ones pay disproportionately less, as compared with the average rise in the respective prices. Hence the actual rise in the total cost of their food during the last 12 years is bound to be highest for poor families.

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[1] Potatoes were derationed on May 2nd, 1948.

[2] We have assumed the age of the youngest child to be five years and that of the two other children between 7 and 12 years. This composition of the family was chosen as corresponding most closely to that of Mr. Rowntree's standard family.

## 2. The Cost of a Family Diet

Our schedule of a ' human needs ' diet that could be bought in Oxford in April 1948, is set out in Table I. The two last columns show in what respects this diet differs from the similar one which we compiled 12 months earlier. The rationing of potatoes had reduced the amount of potatoes that could be included in the schedule, and substitutes had to be introduced in the form of cereal products. We also allowed for the purchase of an additional 8 oz. of greens. The value of the weekly meat ration per head had decreased from 1s. 4d. to 1s., only 10d. of which could buy fresh meat while the remaining 2d. had to be spent on corned beef. Altogether, in April 1948 even more than in April 1947, meat was scarce and, on the whole, of a poor quality, and in order to obtain a cut that would carve economically, housewives were often willing to pay a fairly high price per lb. We have therefore assumed that the whole of the 4s. 10d. available for the family's weekly ration of fresh meat was employed to purchase a ' joint ', costing 1s. 6d. per lb. Some of this meat might be used cold for the husband's packed lunch and thus act as a substitute for the tinned smoked herrings that could be bought in April 1947 but were unobtainable in April 1948.

If cereals have to be eaten with main dishes to make up for a shortage of potatoes, the appetite not only of adults but also of children for milk puddings is rarely very keen, and this would reduce the family's demand for milk. We have therefore included only half a tin of condensed milk in our schedule for April 1948, as against a whole tin in April 1947, in spite of the fact that the weekly ration of fresh milk for the 2 adults of the family was a pint less per week in 1948 than in 1947. The price of fresh milk had risen from April 1947 to April 1948 by a halfpenny a pint, so that the total cost of fresh milk in the diet was reduced by only 3½d. A number of other prices had gone up

### TABLE I

*Weekly 'Human Needs' Diet for a Family of 5 Persons.*

| | Quantity | Price per unit[1] s. | d. | Changes since April 1947 Quantity | *Outlay* *s.* | *d.* |
|---|---|---|---|---|---|---|
| (*a*) Rationed Foods *excl. fresh milk* : | | | | | | |
| 1*a* Meat, fresh ... ... | 2 lb 12 oz. | 1 | 6[2] | — 1 lb 8 oz. | — | *10* |
| 1*b* Corned Beef ... ... | 9 oz. | 1 | 6 | — 7 oz. | — | *10* |
| 2 Bacon ... ... ... | 10 oz. | 2 | 0 | ... | + | *1¾* |
| 3 Margarine ... ... ... | 2 lb 3 oz. | | 9 | + 5 oz. | + | *2¾* |
| 4 Cooking Fat ... ... | 5 oz. | 1 | 0 | ... | | ... |
| 5 Sugar ... ... ... | 3 lb 8 oz. | | 5 | ... | + | *7* |
| 6*a* Jam ... ... ... | 4 oz. | 1 | 4 | ... | + | *0¾* |
| 6*b* Syrup ... ... ... | ... | | ... | — 8 oz. | — | *4½* |
| 7 Tea ... ... ... | 8 oz. | 3 | 6 | ... | + | *5* |
| 8 Cheese ... ... ... | 7½ oz. | | 10 | — 2½ oz. | — | *1½* |
| 9*a* Eggs, shell ... ... ... | 4 eggs | | 3 | ... | + | *5* |
| 9*b* Eggs, dried ... ... | ... | | ... | — ½ packet | *—1* | *3* |
| 10*a* Peas, dried ... ... | 1 lb | | 10 | ... | | ... |
| 10*b* Haricot Beans ... ... | 1 lb | | 11 | ... | + | 2 |
| 11 Rolled Oats ... ... | 2 lb | | 6½ | + 1 lb 8 oz. | + | *10¼* |
| 12*a* Barley Flakes ... ... | 1 lb | | 9 | — 1 lb 8 oz. | *—1* | *4* |
| 12*b* Pearl Barley ... ... | 1 lb | | 7 | + 1 lb | + | *7* |
| 13*a* Macaroni ... ... ... | 1 lb | | 9 | ... | — | 1½ |
| 13*b* Semolina ... ... ... | 1 lb | | 7 | ... | — | 2 |
| 14 Dried Fruit[3] ... ... | 10 oz. | | 10¼[4] | — 6 oz. | — | 2¾ |
| 15 Condensed Milk, skimmed | ½ tin | | 8 | — ½ tin | — | *4* |
| 16 Smoked Herrings, tinned | ... | | ... | — 2 tins | *—2* | *0* |
| 17 Bread ... ... ... | 21 lb 7 oz. | | 4½ | ... | | ... |
| 18 Flour ... ... ... | 2 lb | | 3¾[5] | ... | | ... |
| 19 Potatoes ... ... ... | 15 lb | | 1½ | — 6 lb | + | *1½* |
| *Outlay on Group* (*a*) ... ... | | *26* | *7½* | | *—4* | *0¼* |
| (*b*) Fresh Milk : | | | | | | |
| 20*a* Ordinary ... ... ... | 15½ pt. | | 5 | — 1 pint | + | *3¼* |
| 20*b* School ... ... ... | 5 pt. | | free | ... | | ... |
| *Outlay or Group* (*b*) ... ... | | *6* | *5½* | | + | *3¼* |
| (*c*) Fresh Vegetables *excl. potatoes* : | | | | | | |
| 21*a* Swedes ... ... ... | 3 lb 8 oz. | | 2 | ... | — | *3½* |
| 21*b* Carrots ... ... ... | 3 lb 8 oz. | | 2 | ... | | ... |
| 21*c* Greens ... ... ... | 5 lb 8 oz. | | 5 | + 2 lb 8 oz. | + | *3½* |
| 21*d* Other[6] ... ... ... | 2 lb | | 3½[4] | — 1 lb | — | *9½* |
| *Outlay on Group* (*c*) | | *4* | *0½* | | — | *9½* |
| (*d*) Other Foods : | | | | | | |
| 22 Cocoa ... ... ... | 4 oz. | 1 | 4½ | ... | + | *2¼* |
| 23 Condiments ... ... | ... | 1 | 0 | ... | | ... |
| 24*a* Herrings ... ... ... | 2 lb 12 oz. | | 6½ | + 2 lb 12 oz. | *+1* | *6* |
| 24*b* Kippers ... ... ... | 2 lb | | 9½ | + 2 lb | *+1* | *7* |
| 25 Pork Sausage Meat ... | 1 lb | 1 | 1 | + 1 lb | *+1* | *1* |
| *Outlay on Group* (*d*) ... ... | | *5* | *10¼* | | *+4* | *4¼* |
| **Total Outlay** ... ... ... | | **42** | **11¾** | | — | **2¼** |

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[1] The price unit is : eggs in shell, one egg ; condensed milk, tin; bread, 1¾ lb loaf ; fresh milk, pint ; cocoa, ½ lb ; condiments, total outlay ; all other foods, lb.

[2] Cut for roasting. [3] Figs, dates, and prunes. [4] Average. [5] 3 lb for 11d.

[6] Onions and parsnips in April 1948 ; onions, parsnips, and leeks, in April 1947.

during that period, but some prices had declined, notably the price of greens, which in April 1947 had been scarce and very dear.

Except for the relatively expensive meat all the rationed foods in our schedule for April 1948 are of a distinctly utilitarian nature. Such semi-luxuries as syrup, dried eggs, and tinned fish are not included at all, while of others—tinned milk and dried fruit—less is allowed than was for April 1947. On the other hand, a considerable increase is suggested in the outlay on the group of unrationed foods, on herrings, kippers, and pork sausage meat, as cheap sources of animal protein, to supplement the meagre supply of high grade proteins from the rationed foods.

The foods in Table I rationed on ' points ' required 22 ' points ' per week, while the total number of ' points ' available to a family of 5 persons was 35. Since, however, the purchase of all the bread and flour in our schedule called for 55 ' B.U.s ' instead of the 49 ' B.U.s ' given to a family of the structure assumed by us and neither of whose adult members qualified for the supplementary ration available to manual workers, 6 of the ' points ' would have to be converted into ' B.U.s '[1], to make up for the deficiency. The total outlay of the ' points ' on the foods in Table I is given in Table II.

Table III sets out the expenditure that would be required if some small improvements were made so as to introduce a slightly greater variety into the diet. These improvements assume not only the full use of the ' points ' but also the purchase of the sweets ration of 3 oz. per head per week and of 2 lb. of oranges, omitting, instead, some of the cheap carbohydrate foods, so that the total nutritional intake would be about the same, except for a significant increase in the intake of vitamin C, by about 11 mgm per head per day, due to the addition of oranges to the diet. The cost of this improved diet was 3s. 10¾d. more than that of the ' human needs ' diet, raising the total outlay to 46s. 10½d., and if further the butter ration of 3 oz. per head had been bought instead of substituting margarine for it, another 6¾d., would have been required.

## 3. Food Rationing by the Housewife

As most of the foods that constitute the diet envisaged by us are rationed it is essential to stress the fact that the structure of the diet is inseparably linked up with the structure of the family, and that these low cost diets could be procured only because the five individual rations are not purchased for single individuals but are employed for the family as a whole, and distributed in proportion to individual needs. We have supposed that the housewife provided three cooked meals a day for the family, except perhaps for the husband who might require a packed lunch on most days of the week. Table IV indicates what under these circumstances could be the individual shares of each member of the family, if the housewife, while adhering to the prevailing custom in many families that can afford few of the

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[1] 1 ' point ' could be exchanged for 1 ' B.U. ' ; ' B.U.s ', however, could not be turned into 'points'.

TABLE II

*Outlay of ' Points ' and ' B.U.s ' on ' Human Needs ' Diet for 5 Persons.*

| | Quantity | Points | B.U.s |
|---|---|---|---|
| Peas, dried ... ... | 1 lb | 4 | ... |
| Haricot Beans ... ... | 1 lb | 2 | ... |
| Rolled Oats ... ... | 2 lb | 4 | ... |
| Barley Flakes ... ... | 1 lb | 1 | ... |
| Pearl Barley ... ... | 1 lb | 2 | ... |
| Macaroni ... ... ... | 1 lb | 2 | ... |
| Semolina ... ... ... | 1 lb | 2 | ... |
| Dried Fruit[1] ... ... | 10 oz. | 2 | ... |
| Condensed Milk, skimmed | ½ tin | 3 | ... |
| Bread ... ... ... | 21 lb 7 oz. | ... | 49 |
| Flour ... ... ... | 2 lb | ... | 6 |
| Total spent ... ... | | 22 | 55 |
| Total available ... ... | | 35 | 49 |
| Difference ... ... | | +13 | — 6 |
| ' Points ' changed into ' B.U.s ' | | — 6 | + 6 |
| Unused ' Points '... ... | | 7 | |

[1] Dates, figs, and prunes in equal quantities. One lb of dates or prunes required 4 ' points ', one lb of figs 2 ' points '.

TABLE III

*Improvements on ' Human Needs ' Diet for 5 Persons.*

| | Quantity | Outlay | | ' Points ' |
|---|---|---|---|---|
| | | s. | d. | |
| **' Human Needs ' Diet** | | **42** | **11¾** | **28** |
| *Excluding* : | | | | |
| Barley Flakes ... ... | 8 oz. | | 4½ | ½ |
| Pearl Barley ... ... | 8 oz. | | 3½ | 1 |
| Macaroni ... ... | 8 oz. | | 4½ | 1 |
| Semolina ... ... | 8 oz. | | 3½ | 1 |
| Herrings ... ... | 8 oz. | | 3¼ | — |
| | | 1 | 7¼ | 3½ |
| *Including* : | | | | |
| Syrup ... ... ... | 4 oz. | | 2¼ | 2 |
| Dried Eggs ... ... | 3 eggs[1] | | 7½ | 2½ |
| Condensed Milk, skimmed | ½ tin | | 4 | 3 |
| Sweet Biscuits ... | 5 oz. | | 5 | 3 |
| Chocolate ... ... | 5 oz. | | 11¼ | — |
| Boiled Sweets ... | 10 oz. | 1 | 8 | — |
| Oranges... ... ... | 2 lb | 1 | 4 | — |
| | | 5 | 6 | 10½ |
| **Improved Diet** .. ... | | **46** | **10½** | **35** |

[1] Equivalent..

unrationed first class protein foods, of giving to the husband most of the family's meat and cheese, tries to consider as much as possible individual needs. In compiling the shares shown in Table IV we have omitted 14 oz. of bread included in Table I, assuming that a small amount of calorific food has to be held in reserve as a safety margin, to satisfy unforeseen energy requirements of any particular member of the family.

The actual cost of each individual share is given in Table V. It will be seen that while the expenditure on the husband's share amounted to 11s. 3¾d., that of the youngest child cost only 6s. 7d. Expressed in indices the relative outlay for the 5 members of the family was: husband, 100; wife, 77; each of the older children, 71; the youngest child, 58. If the small improvements suggested in Table III were introduced each member would probably have profited by them in about equal proportion, at least in so far as cost is concerned. In that case, the indices referring to the wife and the children would be slightly raised, so that, if the expenditure on the husband's food is again equated to 100, the cost of the wife's share was 79, that of an older child's 73, and that of the youngest one's 61.

Most rationed foods are relatively cheap, as compared with nutritionally or dietetically equivalent foods that are unrationed, and the nutritional needs of the adults in a family with young children can be supplied at a low cost because they can draw to some extent on the children's rations. The indices of the actual consumption of rationed foods in their respective shares, as outlined in Table IV, will be found in Table VI. In considering the consumption of foods rationed on 'points' and 'B.U.s' it should be remembered that the diet as a whole only took up 5.6 of the full allowance of 7 'points' per head per week, and, further, that of these only 4.4 were utilized for the purchase of foods thus rationed, while 1.2 per head were employed to supplement the family's allowance of 'B.U.s'. Of these 1.2 points, again, 0.4 were required for the purchase of the 14 oz. of bread that are included in the family diet in Table I but excluded from the shares in Table IV. Hence, the family's average consumption of 'points' foods amounted to only 63 per cent of their total allowance, while their total consumption of bread, as far as individual shares are concerned, was 108 per cent of their total allowance. Obviously, in dealing with the individual shares, the 'points'—or 'B.U.s'—spent on the unallotted 14 oz. of bread have to be omitted. It will be seen that except for sugar, jam, and milk, the husband's share in the rationed foods would be far above his actual rations, while that of the youngest child would be for every item far below the amounts obtained on this child's ration book, barring only his intake of milk.

## 4. Family Rations and Nutrition

In Table VII we compare the cost of the foods shown in Table I, as obtained on each individual ration book, with the cost of the rationed foods as distributed in the individual shares shown in Table IV. In each case margarine is substituted for butter and only 4 oz. of tea are allowed in equal

### TABLE IV

*Individual Shares Aavailable in 'Human Needs' Diet for 5 Persons (per Week).*

| | Husband | Wife | Child 7—12[1] | Child 5 years |
|---|---|---|---|---|
| (*a*) Rationed Foods *excl. fresh milk* : | | | | |
| 1*a*[2] Meat, fresh | 1 ℔ | 6 oz. | 8 oz. | 6 oz. |
| 1*b* Corned Beef | 5 oz. | 1 oz. | 1 oz. | 1 oz. |
| 2 Bacon | 6 oz. | 1 oz. | 1 oz. | 1 oz. |
| 3 Margarine | 9 oz. | 9 oz. | 6½ oz. | 4 oz. |
| 4 Cooking Fat | 2 oz. | 1 oz. | ¾ oz. | ½ oz. |
| 5 Sugar | 6 oz. | 15 oz. | 13 oz. | 9 oz. |
| 6*a* Jam | ½ oz. | ½ oz. | 1 oz. | 1 oz. |
| 8 Cheese | 4½ oz. | 1 oz. | ¾ oz. | ½ oz. |
| 9*a* Eggs, shell | 2 eggs | ½ egg | ½ egg | ⅓ egg |
| 10*a* Peas, dried | 6 oz. | 4 oz. | 2½ oz. | 1 oz. |
| 10*b* Haricot Beans | 5 oz. | 4 oz. | 2½ oz. | 2 oz. |
| 11 Rolled Oats | 6 oz. | 8 oz. | 6½ oz. | 5 oz. |
| 12*a* Barley Flakes | — | 4 oz. | 4 oz. | 4 oz. |
| 12*b* Pearl Barley | 6 oz. | 3 oz. | 2½ oz. | 2 oz. |
| 13*a* Macaroni | 6 oz. | 3 oz. | 2½ oz. | 2 oz. |
| 13*b* Semolina | — | 4 oz. | 4 oz. | 4 oz. |
| 14 Dried Fruit | 1 oz. | 2 oz. | 2½ oz. | 2 oz. |
| 15 Condensed Milk | — | — | ⅙ tin | ⅙ tin |
| 17 Bread[3] | 6 ℔ 10 oz. | 5 ℔ 8 oz. | 3 ℔ 4 oz. | 1 ℔ 15 oz. |
| 18 Flour | 12 oz. | 6 oz. | 6 oz. | 2 oz. |
| 19 Potatoes | 5 ℔ | 2 ℔ 8 oz. | 3 ℔ | 1 ℔ 8 oz. |
| (*b*) Fresh Milk : | | | | |
| 20*a* Ordinary | 2 pt. | 3 pt. | 3½ pt. | 3½ pt. |
| 20*b* School | — | — | 1⅔ pt. | 1⅔ pt. |
| (*c*) Fresh Vegetables *excl. potatoes* : | | | | |
| 21*a* Swedes | 1 ℔ | 12 oz. | 10 oz. | 8 oz. |
| 21*b* Carrots | 8 oz. | 12 oz. | 12 oz. | 12 oz. |
| 21*c* Greens | 1 ℔ 4 oz. | 1 ℔ 2 oz. | 1 ℔ 1 oz. | 1 ℔ |
| 21*d* Onions | 2 oz. | 4 oz. | 4 oz. | 2 oz. |
| Parsnips | 6 oz. | 4 oz. | 2 oz. | 2 oz. |
| (*d*) Other Foods : | | | | |
| 22 Cocoa | — | 1 oz. | 1 oz. | 1 oz. |
| 24*a* Herrings | 12 oz. | 11 oz. | 8 oz. | 5 oz. |
| 24*b* Kippers | 8 oz. | 7 oz. | 6 oz. | 5 oz. |
| 25 Sausage Meat | 4 oz. | 3 oz. | 3 oz. | 3 oz. |

[1] Two children in this age group.
[2] The serial numbers correspond to those in Table I.
[3] 14 oz. unallotted.

### TABLE V

*Weekly Cost of Individual Shares of Diet for 5 Persons.*

| | Husband | | Wife | | Child 7—12[1] | | Child 5 years | |
|---|---|---|---|---|---|---|---|---|
| | s. | d. | s. | d. | s. | d. | s. | d. |
| Foods in Table IV : | | | | | | | | |
| Rationed *excl. fresh milk* | 7 | 10¼ | 4 | 10¾ | 4 | 4½ | 3 | 2 |
| Fresh Milk | | 10 | 1 | 3 | 1 | 5½ | 1 | 5½ |
| Vegetables *excl. potatoes* | | 11 | | 10¼ | | 9½ | | 8½ |
| Other Foods | 1 | 0¾ | 1 | 1 | | 11½ | | 9½ |
| Total | 10 | 8 | 8 | 1 | 7 | 7 | 6 | 1½ |
| Tea | | 5¼ | | 5¼ | | 3½ | | 3½ |
| Condiments | | 2½ | | 2½ | | 2½ | | 2 |
| Total 'Human Needs' Diet[1] | 11 | 3¾ | 8 | 8¾ | 8 | 1 | 6 | 7 |
| Share in Improvements | | 9½ | | 9½ | | 9¼ | | 9¼ |
| Total Improved Diet[2] | 12 | 1¼ | 9 | 6¼ | 8 | 10¼ | 7 | 4¼ |

[1] Two children in this age group.
[2] Excluding expenditure of 2¼d. on 14 oz. of bread.

### TABLE VI

*Indices of Consumption of Rationed Foods in Table IV.*

| | Ration per Person per Week | Indices (Ration=100) Husband | Wife | Child 7—12[1] | Child 5 years |
|---|---|---|---|---|---|
| Meat, fresh | *10d.* | 180 | 68 | 90 | 68 |
| Corned Beef | *2d.* | 280 | 56 | 56 | 56 |
| Bacon ... | 2 oz. | 300 | 50 | 50 | 50 |
| Margarine ... | 7 oz. | 129 | 129 | 93 | 57 |
| Cooking Fat | 1 oz. | 200 | 100 | 75 | 50 |
| Sugar<br>Jam } ... | 12 oz. | 54 | 129 | 117 | 83 |
| Cheese ... | 1½ oz. | 300 | 67 | 50 | 33 |
| Eggs, shell ... | 0.8 egg[2] | 250 | 63 | 63 | 63 |
| Potatoes ... | 3 lb | 167 | 83 | 100 | 50 |
| Milk, Adult | 2½ pt. | 80 | 120 | — | — |
| Milk, Child | 3½ pt.[3] | — | — | 100 | 100 |
| Adul { Points | 7 | 65 } 137[4] | 63 } 113[4] | — | — |
| B.U.s | 9 | 193 | 152 | | |
| Child { Points | 7 | — | — | 66 } 73[4] | — |
| 7—12 B.U.s | 11[5] | — | — | 78 | |
| Child { Points | 7 | — | — | — | 54 } 54[4] |
| 5 years B.U.s | 9 | — | — | — | 53 |

[1] Two children in this age group. [2] Approximately.
[3] Each child obtained, in addition to this, 1⅜ pints per week at school.
[4] Taking the combined allowance of ' points ' and ' B.U.s ' as 100.
[5] Average: child 7—11, 9 ' B.U.s '; child 11—12, 13 ' B.U.s '.

shares to the 3 children, instead of their full weekly ration of 2 oz. for each of them. Further, only 5.6 ' points ' per head per week are supposed to be used out of the 7 ' points ' available. For the purchases calculated per ration book these 5.6 ' points ' have been assumed to be spent for each member of the family in precisely the same way, on the respective foods in Table I. With the figures of cost are given the amounts of the main nutrients purchased. Since in the individual shares in Table IV we have omitted 14 oz. of bread included in Table I, we have added the cost of this, and the nutrients derived from it, to the data of section (*B*) of Table VII, so as to arrive at totals virtually identical with those of section (*A*), the insignificant differences that occur in some of them being due to rounding off. If we compare the figures of calories in Table VII referring to the individual shares of rationed foods in the diet, with the corresponding figures of individual total calorific intake in Table VIII, we find that they amount to about 94 per cent for the husband, to 93 per cent for the wife, and to 92 per cent for each of the children, while the actual rations in Table VII represent of the individual total requirements[1], 65 per cent for the husband, 78 per cent for the wife[2], 106 per cent on the

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[1] In order to obtain a balanced picture it is obviously necessary to compare the nutritional intake from the individual shares in the rationed foods as eaten with the total individual intake from the family diet, and the nutrients supplied per ration book with the standard requirements of each individual.

[2] For their unused 1.4 ' points ' per head the two adults could each purchase per week some additional calorific foods, the largest possible amount obtainable in the form of pearl barley, which required 1 ' point ' per lb. Thus at a weekly cost of 9¾d., each of the adults could have added per day 290 calories to his intake from the rations, raising the index of calorific intake from rationed foods, as compared with standard requirements, to 75 for the husband and 89 for the wife.

## TABLE VII

*Individual Rations and Family Rations.*[1]

(*A*) *Cost of Individual Rations and Nutrients Supplied by These.*

| | Cost per week[2] | | Nutrients per Day | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | s. | d. | Calories | Protein total gm. | Protein *animal gm.* | Calcium mgm. | Iron mgm. | Vitamin A Intern. Units | Vitamin $B_1$ mgm. | Vitamin C mgm. |
| Adult, male ... ... | 6 | 4½ | 1945 | 58 | *17* | 560 | 11.5 | 965 | 1.20 | 6 |
| Adult, female ... ... | 6 | 4½ | 1945 | 58 | *17* | 560 | 11.5 | 965 | 1.20 | 6 |
| Child, 11—12 ... ... | 7 | 0¼ | 2360 | 75 | *24* | 885 | 14.0 | 1195 | 1.50 | 8 |
| Child, 7—11 ... ... | 6 | 7¾ | 2075 | 65 | *24* | 820 | 12.0 | 1195 | 1.30 | 8 |
| Child, 5 years ... ... | 6 | 7¾ | 2075 | 65 | *24* | 820 | 12.0 | 1195 | 1.30 | 8 |
| Total for Family of 5[4] | 33 | 0¾ | 10400 | 321 | *106* | 3645 | 61.0 | 5515 | 6.50 | 36 |

(*B*) *Cost of Individual Shares in Family Rations and Nutrients Supplied by These.*

| | Cost per week[2] | | Nutrients per Day | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | s. | d. | Calories | Protein total gm. | Protein *animal gm.* | Calcium mgm. | Iron mgm. | Vitamin A Intern. Units | Vitamin $B_1$ mgm. | Vitamin C mgm. |
| Adult, male ... ... | 9 | 1½ | 2775 | 92 | *28* | 745 | 19.5 | 1340 | 1.85 | 7 |
| Adult, female ... ... | 6 | 7 | 2300 | 66 | *14* | 640 | 13.0 | 1120 | 1.40 | 6 |
| Child, 7—12[3] ... ... | 6 | 1½ | 1910 | 58 | *21* | 775 | 10.0 | 1095 | 1.15 | 8 |
| Child, 5 years ... ... | 4 | 11 | 1355 | 43 | *20* | 685 | 7.0 | 865 | 0.80 | 7 |
| Bread, 14 oz. ... ... | | 2¼ | 145 | 5 | — | 30 | 1.0 | — | 0.10 | — |
| Total for Family of 5[4] ... | 33 | 0¾ | 10395 | 322 | *104* | 3650 | 60.5 | 5515 | 6.45 | 36 |

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[1] Only 5.6 of the allowance of 7 ' points ' per nation book per week are assumed to be spent. The figures of nutrients include the nutrients available from 1⅔ pints of school milk per child per week.

[2] Only 8 ounces of tea are assumed to be purchased per week, instead of the full ration of 10 ounces for a family of 5 persons, and of these, 2 ounces for each of the 2 adults and 4 ounces in equal shares for the 3 children.

[3] Two children in this age group.

[4] The slight differences in some of the corresponding totals of (*A*) and (*B*) are due to rounding off.

TABLE VIII

*Nutritional Requirements and Intake from ' Human Needs ' Diet.*

| *Nutritional Requirements per Day* : | Husband | Wife | Child 7—12 | Child 5 years | ' Man ' Values of Family of 5 Persons[1] |
|---|---|---|---|---|---|
| Calories ... ... ... ... | 3000 | 2500 | 2100 | 1500 | 3.73 |
| Protein, gm. ... ... ... | 70 | 60 | 65 | 50 | 4.43 |
| Calcium, gm. ... ... ... | 0.8 | 0.8 | 1.4 | 1.3 | 7.13 |
| Iron, mgm. ... ... ... | 10 | 10 | 13 | 8 | 5.40 |
| Vitamin A, Intern. Units ... | 3000 | 3000 | 3000 | 3000 | 5.00 |
| Vitamin $B_1$, mgm. ... ... | 0.90 | 0.75 | 0.95 | 0.68 | 4.68 |
| Vitamin C, mgm. ... ... | 30 | 30 | 30 | 30 | 5.00 |
| *Individual Intake per Day from ' Human Needs ' Diet* (Table IV) : | Husband | Wife | Child 7—12 | Child 5 years | Averages[2] per ' Man ' |
| Calories ... ... ... ... | 2960 | 2480 | 2070 | 1480 | 3000 |
| Protein, gm. ... ... ... | 105 | 78 | 68 | 51 | 84 |
| Calcium, gm. ... ... ... | 0.9 | 0.8 | 0.9 | 0.8 | 0.6 |
| Iron, mgm. ... ... ... | 21 | 15 | 12 | 9 | 13 |
| Vitamin A, Intern. Units ... | 3300 | 3900 | 3900 | 3600 | 3720 |
| Vitamin $B_1$, mgm. ... ... | 1.9 | 1.5 | 1.3 | 0.9 | 1.5 |
| Vitamin C, mgm. ... ... | 38 | 32 | 33 | 29 | 33 |
| *Animal Protein* : | | | | | |
| gm. ... ... | 38 | 23 | 29 | 26 | 33 |
| *of protein requirements* ... ... | *55%* | *39%* | *45%* | *52%* | *47%* |

[1] Husband, wife, 2 children 7—12 years and 1 child 5 years old.

[2] Including nutrients from 14 oz. of bread not allotted to individual members of the family.

TABLE IX

*Relative Intake of Calcium from Individual Shares in ' Human Needs ' Diet.*

| | Husband | Wife | Child 7–12 | Child 5 years |
|---|---|---|---|---|
| | % | % | % | % |
| All Milk[1] ... ... ... ... | 21.9 | 37.7 | 59.6 | 67.9 |
| Cheese ... ... ... ... | 16.7 | 4.2 | 2.8 | 2.1 |
| Herrings and Kippers ... ... | 6.0 | 6.2 | 4.2 | 3.5 |
| All Rationed Meat and Bacon ... | 1.3 | 0.5 | 0.5 | 0.4 |
| Eggs ... ... ... ... | 1.0 | 0.3 | 0.2 | 0.3 |
| Sausage Meat ... ... ... | 0.6 | 0.5 | 0.4 | 0.5 |
| Bread and Flour ... ... ... | 31.6 | 28.5 | 15.5 | 9.9 |
| Fresh Vegetables *excl. potatoes* ... | 9.3 | 10.3 | 8.2 | 8.3 |
| Haricot Beans ... ... ... | 4.1 | 3.8 | 2.0 | 1.9 |
| Potatoes ... ... ... ... | 2.6 | 1.5 | 1.5 | 0.9 |
| Dried Peas ... ... ... ... | 1.6 | 1.3 | 0.7 | 0.3 |
| Rolled Oats ... ... ... | 1.5 | 2.4 | 1.7 | 1.4 |
| Macaroni and Semolina ... ... | 0.7 | 0.7 | 0.6 | 0.6 |
| Dried Fruit ... ... ... ... | 0.6 | 1.3 | 1.4 | 1.3 |
| Barley Flakes and Pearl Barley ... | 0.3 | 0.4 | 0.3 | 0.3 |
| Other Foods ... ... ... | 0.2 | 0.4 | 0.4 | 0.4 |
| Total ... ... ... ... | 100.0 | 100.0 | 100.0 | 100.0 |

[1] Including condensed milk.

average for each of the older children, and 138 per cent for the youngest child.

Table VIII gives the total nutritional intake from the individual shares as set out in Table IV and the corresponding standard requirements as recommended by the Ministry of Health. In computing the intake of vitamin A, an international unit of carotene has been counted as one-third of an international unit of the vitamin, and in computing the intake of vitamin C, 50 per cent of the vitamin contained in the edible portion of the fresh vegetables has been deducted so as to allow for losses in cooking[1]. It will be seen that, on the whole, the nutritional intake from the individual shares would be satisfactory, except as regards the children's intake of calcium, which, however, could be substantially augmented only by a consumption of milk much larger than is either customary or, at present, feasible. Only the very large shares of bread and flour allotted to the adults could secure for the two adults an intake of calcium conforming to the standard requirement in the case of the wife and slightly above the standard requirement in the case of the husband. The children would obtain from their foods each approximately as much calcium as an adult, but while of the youngest child's intake of calcium 70 per cent and of the two older children's intake 62.4 per cent would derive from milk and cheese, only 38.6 per cent of the calcium in the husband's and 41.9 per cent in the wife's diet would be supplied by these sources (Table IX).

## 5. CONCLUSION

Our survey in April 1948 has shown that an inexpensive diet for a family of 5 persons could be obtained at a weekly cost of about 43 shillings, which was a few pence less than had to be spent on a similar diet a year earlier. Yet for a very poor housewife who before the war only bought the cheapest qualities of foods in the cheapest markets and who now has to buy rationed foods that to a large extent are standardized, each shilling spent on food in April 1948 only procured on the average 6½d. worth of satiety value for her family, as compared with its purchasing power in 1936.

In April 1948, potatoes were rationed at 3 lb. per head per week, but for a family with young children it would have been possible to make good the shortage of potatoes by an increased consumption of cereals rationed on ' points '. Herrings and kippers were plentiful, and there was also a much better supply of fresh vegetables and in particular of greens than in April 1947, when the winter had been exceptionally hard. In these respects, shopping was easier in the spring of 1948 than it had been in the spring of 1947. On the other hand, various important changes in rationing necessitated a large number of adjustments in the planning of a family diet that were difficult to make, in particular if they had to be procured at the lowest possible cost. It is, therefore, perhaps a reasonable assumption that not many housewives succeeded in procuring a satisfactory diet for a family of five persons at a weekly cost of about 8s. 7d. per head.

T. SCHULZ.

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[1] All the food values were computed by means of the Memorandum on *Nutritive Values of Wartime Foods*, published by the Medical Research Council in 1945.

# THE INCREASE IN THE WORKING-CLASS COST-OF-LIVING SINCE BEFORE THE WAR

The recently-issued Supplement No. 2 to the Industrial Relations Handbook describes in detail the structure of the new Index of Retail Prices including particulars of the weighting system, which is based on the representative working-class household budgets collected by the Ministry of Labour in 1937 and 1938.[1] The weights ' represent the proportions shown by the 1937–8 budgets, adjusted to take account of the broad changes in relative prices between that date and mid-June, 1947.' The Supplement adds : 'The information available on relative price changes since 1937–8 was sufficient to provide, for weighting purposes, broad estimates of the proportions in which the various sections and groups entered into the total cost at the base date. It was not, however, sufficiently accurate to compare the actual cost of the items in 1937–8 and at the base date, and hence, to give an index of price changes since pre-war.' Now this question of the change since before the war in the working-class cost-of-living, in the sense of the cost of buying what was bought by representative working-class families in 1937–8, is central for economic discussion. While such a calculation would only be an approximation to the increase in the cost of buying what the working-class purchased in 1937–8, and while this increase is not entirely relevant to the more fundamental question of the increase in the cost of maintaining a certain living standard, an estimate of the order of magnitude of this change is essential for such questions as the redistribution of real income since pre-war, and the change in the purchasing power of wages and social security benefits. The major changes caused by the war have probably by now already taken place, and if the experience after the 1914–18 war is a guide,[2] there should be a new plateau in the cost of living established, variations over which will be small compared with the change since before the war.[3] The rough difference between this plateau and the level before 1939 is a fact of major importance in discussions of the larger economic and political problems. Technical modesty would not seem by itself an adequate reason for suppressing the Committee's estimate, even if ' broad ', and perhaps a more weighty reason was an unwillingness for such an estimate to be compared with the rise in the cost-of-living shown by the old cost-of-living index. Perusal of the Supplement indicates that the Ministry has in fact been at some pains to calculate the estimate with care.

It is possible, however, to reconstruct by inference the Technical Committee's probable procedure and to estimate their estimate. The principle on which the Committee worked must have been approximately as follows: The weight $\mathrm{w}_r$ for any particular item, taken from the 1937–8 budgets (and scaled up so that $\Sigma(\mathrm{w}) = 1{,}000$) must have been multiplied by the price change ($\mathrm{p}_r$) between 1937–8 and mid-June 1947 to give a total weight ($\mathrm{w}_r\mathrm{p}_r$) for the base date of the index. This weight had then to be reduced to $w_r$ so that $\Sigma(w) = 1{,}000$. The total weights at the base date before reduction must have been $\Sigma(\mathrm{wp})$, and each weight must have been multiplied by $\dfrac{1000}{\Sigma(\mathrm{wp})}$, for $\Sigma(w)$ to be 1,000. For each section of the index therefore:

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[1] These budgets were collected for four separate weeks, in October 1937, January 1938, April 1938, and July 1938. When ' 1937–8 ' is used in this paper it refers to these dates.

[2] Ignoring the immediate post-war inflation which was responsible for increases of 20 and 30 points per annum, and then decreases of the same order, since repetition of this inflation has been partly avoided.

[3] Though this depends on subsidy policy and on the trend of world prices for primary products, which in turn depends largely on the trend of effective demand in the United States.

$$w_r = \mathrm{w}_r\mathrm{p}_r \frac{1000}{\Sigma(\mathrm{wp})} \qquad (1)$$

But since $\Sigma(\mathrm{w}) = 1000$, $\dfrac{\Sigma(\mathrm{wp})}{1000}$ is in fact the Committee's estimate of the weighted average overall increase between 1937–8 and June 1947 in the cost of purchasing the goods in the representative budget, an estimate we shall call 'I'. For each section of the index, therefore:

$$\frac{w_r}{\mathrm{w}_r} = \frac{\mathrm{p}_r}{\mathrm{I}}$$

Verbally, the weight given to each section at the base date (June 1947) stands in the same proportion to the 1937–8 weight as the relative price increase for that section does to the overall weighted average increase in the cost-of-living.[1] Re-arranging, we have:—

$$\mathrm{I} = \mathrm{p}_r \cdot \frac{\mathrm{w}_r}{w_r} \qquad (2)$$

We know the June 1947 weights for each section of the index (*i.e.* $w_r$), because these are printed in Appendix C to the Supplement. We can estimate the 1937–8 weight for each section of the index (*i.e.* $\mathrm{w}_r$) with considerable accuracy, because the method used by the Technical Committee is described in detail in the Supplement. The full reconstruction of the 1937–8 weights is described in Appendix A, the first of the technical appendices of this paper. If, therefore, we can estimate the price-relative used by the Technical Committee for any section of the index ($\mathrm{p}_r$), we can find out from formula (2) the Technical Committee's estimate of I, the overall weighted average increase in the working-class cost-of-living (defined as the cost of buying what the budgets showed the working-class bought in 1937–8).

There are two sets of price relatives for consumer goods available, the relatives given in the National Income White Paper,[2] and those given in the Ministry of Labour Gazette for sections of the old cost-of-living index. Each price relative can be used in formula (2) to give us a value of I it implies.

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[1] The argument does not, of course, depend on the assumption that the Committee chose weights so that $\Sigma(\mathrm{w}_r) = 1{,}000$. If the Committee did not, then

$$\mathrm{I} = \frac{\mathrm{p}_r}{w_r}\left[\mathrm{w}_r \frac{1000}{\Sigma(\mathrm{w})}\right]$$

The expression inside the bracket is in fact $\mathrm{w}_r$, scaled up so that $\Sigma(\mathrm{w}) = 1{,}000$. Whatever the Committee's $\Sigma(\mathrm{w})$ was, therefore, we can treat $\mathrm{w}_r$ in equation (2) as if $\Sigma(\mathrm{w}) = 1{,}000$.

[2] Cmd.7371

If these relatives were the ones used by the Technical Committee, every implied estimate of I would be the same, except for small differences of a point or two due to rounding. In fact, however, some of these relatives were inappropriate for estimating the increased cost of *working-class* purchases of the commodity groups concerned, *as revealed by the* 1937–8 *budgets.* The price relatives in the National Income White Paper refer to *total consumer* purchases of each group of commodities. They are likely to be particularly inappropriate where the prices of goods bought by the working class have increased less than a group's average price, because of Governmental policies of subsidising necessities and subjecting them to more rigorous price controls. In such cases $p_r$ will be too high, if we assume, as we must, that the Technical Committee would avoid such biassed relatives. The implied value of I will therefore also be too high. The price relatives for items in the cost-of-living index are in many cases more likely to have been used by the Committee. They were readily available, and most of them referred to homogeneous commodities which were not subject to a discriminating price policy. The cost-of-living index price relatives of broad totals, however, such as 'food' and 'clothing', understated the rise in the price of working-class purchases as revealed by the 1937–8 budgets, since they referred to *working-class purchases before the first World War.* Subsidies have been directed precisely to goods heavily weighted in the old cost-of-living index, as it was much cheaper to stabilise this index than to stabilise the actual cost of working-class purchases. These price relatives would have, therefore, also been biassed (though in the opposite direction to the National Income White Paper's relatives), giving too low an estimate of $p_r$, and therefore too low an implied estimate of I.

The unbiassed estimates of I which remain indicate a value of I between 161 and 162, using the methods described in Appendix B, a surprisingly large proportion of the estimates being at or very near this value. Examination of the data indicates in fact that the information in the hands of the Technical Committee led them to the conclusion that the cost of buying the goods in the 1937–8 working-class budgets was by June 1947 approximately 61 to 62 per cent higher than at the time these budgets were compiled.[1]

Now, having found I, we can use it to estimate the price relative for each section of the Index by modifying formula (2) thus :—

$$p_r = \frac{w_r}{W_r} . I$$

The full estimates for each section are shown in Appendix C, together with a derived set of estimates of how much separate items of the 1937–8 working-class budget would have cost in June 1947. A comparison between the new price relatives for June 1947 inferred in this way, and the price relatives for sections of the old cost-of-living index for the same period, is made in this

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[1] The Ministry of Labour seems open to criticism in continuing through the early months of 1947 to publish an index showing an increase in the cost-of-living of approximately 29 per cent for the same period, without stating that an increase over twice as great had been derived by using a much more realistic weighting system.

Appendix. It shows the combined effect of the distorted weighting system of that index together with the official policy of concentrating subsidies on items with a high weight in the index. The contrast is very marked for food, because of the underweighting of fruit, vegetables, etc. The old cost-of-living index only showed a price rise of 13 per cent, compared with the rise of 38 per cent in the cost of the food in 1937–8 budgets. The marked rise in the prices of drink and tobacco was almost ignored by the old index.[1] The consequent bias in the old index has partially discredited official index numbers in the public's mind. This may eventually prove an expensive price for exploiting public confidence in the cost-of-living index, by selecting items with high weights in the index for subsidising, so as to avoid the necessity for a more rigorous price stabilisation policy.

The index number for each major group in the index is extracted and shown below. These index numbers can be linked by multiplication to those shown in the Ministry's Retail Price Index to bring them up to date,[2] as is done in the last column of the Table, which shows the index number at mid-March 1948, *i.e.* just before the Budget.

*Working-Class Cost-of-Living, Pre-War, June 1947 and March 1948*

| | *1937–8* | *Mid-June 1947* | *Mid-March 1948* |
|---|---|---|---|
| Food ... ... ... ... | 100 | 138 | 150 |
| Rent ... ... ... ... | 100 | 110 | 110 |
| Clothing ... ... ... ... | 100 | 174 | 182 |
| Fuel and Light ... ... ... | 100 | 144 | 158 |
| Household durables ... ... | 100 | 206 | 222 |
| Misc. household goods ... ... | 100 | 150 | 167 |
| Services ... ... ... ... | 100 | 155 | 162 |
| Drink and tobacco ... ... | 100 | 283 | 295 |
| All ... ... ... | 100 | 161–2 | 172 |

Although the emphasis in this paper so far has been on inferring what the official estimate of the increase in the cost of living was, this estimate of 61–62 per cent does have some intrinsic value. We should obtain an increase of approximately 61–62 per cent if we used the weighting system described in the Supplement (almost certainly the best available), the price relatives indicated in Table II below (from the old cost-of-living index for food and rent items, and from the National Income White Paper for most of the others), which would cover most of the Index's weights, and filled in the remaining unknown relatives with the help of the change of weights shown by the Supplement.[3] Whatever was the Technical Committee's procedure, it would be difficult to select plausible weights and price relatives which

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[1] It is interesting, and somewhat sobering, for the statistician to note how the statistical decision before the first World War to under-represent tobacco in the old index and to exclude beer, affected fiscal policy and hence the living standards of the British public a generation later.

[2] It is technically quite correct to link the indices in this way, as the weights are the same throughout. If $q_0$ and $p_0$ are the quantities bought and prices paid in 1937–8, and $p_1$ and $p_2$ are the prices of the same articles at June 1947 and any subsequent date,

$$\frac{\Sigma q_0 p_2}{\Sigma q_0 p_0} = \frac{\Sigma q_0 p_2}{\Sigma q_0 p_1} \times \frac{\Sigma q_0 p_1}{\Sigma q_0 p_0}$$

[3] Professor R. G. D. Allen in fact estimates a 62 per cent rise from 1938 (Average) to Mid-1947. London and Cambridge Economic Service Bulletin (Vol. XXV, Bulletin III, p. 75).

would indicate that the cost of buying the 1937–8 budgets has not risen by about this amount.

The estimates of the increased cost of the 1937–8 budgets made by Mr. Nicholson and myself in previous issues of the BULLETIN[1] appear to have been not very inaccurate, though largely because of two opposite errors. By using the National Income White Paper indices, as can be seen from Appendix C, we over-estimated the price increases in food, clothing and fuel, but on the other hand we considerably under-estimated the weights attributable to drink and tobacco, which meant giving the index a strong downward bias. On balance, my previous estimates of the war-time rise in the cost-of-living were too low.

A remarkable feature of the estimated increase in the weighted average cost-of-living of 61–62 per cent from 1937–8 to June 1947, is that it is nearly as much as the increase in the price of all consumers' goods, from the average of 1938 to the average of 1947, given as 68 per cent in the latest National Income White Paper. This is in striking contrast to the popular opinion that price policy, through subsidies on necessities and high purchase taxes on luxuries, has greatly assisted the working-class. The explanation seems to be that before the war expenditure on tobacco was a larger proportion of total expenditure for the working-classes than for the whole population—5.0 per cent as against 4.1 per cent; and so was expenditure on alcohol, 7.0 per cent as against 4.3 per cent.[2]

The weighted average rise in the price indices for all items except drink and tobacco was 53 per cent for the whole population, and 43 per cent for the working-class. For all items, *except* drink and tobacco, the White Paper price index was 1.07 times the working-class price index: for all items, *including* drink and tobacco, it was 1.04 times. The large increases in the prices of drink and tobacco have therefore gone some way to offsetting the effect of the discriminating price policy for other goods.

It must be emphasised that a cost-of-living index number, based on a pre-war weighting system, has a limited meaning for two reasons. First, because of changes in quality, which cannot wholly be taken into account, but which were probably in the main downwards; and secondly, because the working-classes are prevented by rationing from buying in 1947 what they bought in 1937–8, and have to buy substitutes which on the whole have increased more sharply in price, and which are often not entirely satisfactory as substitutes.[3] Both these qualifications cause what is in effect a downward bias in the index, considered as an index of the cost of a defined living standard. This bias can be exaggerated as most of the items in the index are too standardised for great changes in quality to have occurred; and working-class purchases of foodstuffs, the chief rationed groups, were not always in 1937–8 very much above the present rations, as is shown in Appendix D. It is calculated in this Appendix that if we replaced the 1937–8 weights for food by weights corresponding to the rations in June 1947 we would obtain an increase of 67 per cent in the cost-of-living between 1937–8 and June 1947.

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[1] BULLETIN, Vol. 7, No. 14, and Vol. 9, No. 7 respectively.

[2] Using the information on working-class drink and tobacco expenditure given in the Supplement, and the distribution of total consumer expenditure shown in the National Income White Paper.

[3] Under ordinary circumstances such a wide dispersion of price relatives would cause a switching of expenditure to goods whose prices had increased least, producing an upward bias in the index. To remove the downward bias it will not be necessary for full freedom of choice to return, merely sufficient freedom for the same proportions of total expenditure to be spent on goods whose prices have risen less than average as in 1937–8 (*i.e.* for the correlation between price relatives and changes in weights to be zero).

Whatever the increase in the cost of buying the 1937–8 working-class living standard between 1937–8 and June 1947 was, however, it was certainly more than the 61–62 per cent which we infer as the official estimate. If we made a rough allowance for quality charges and restriction of choice, it would seem to be reasonably accurate to say that the cost-of-living so defined had risen between 1937–8 and June 1947 by at least two-thirds, and between 1937–8 and June 1948, by rather more than four-fifths.[1]

## APPENDIX A

### THE 1937–8 WEIGHTS

These can be determined with the aid of the information in the Supplement that the two sets of budgets of industrial and agricultural workers in 1937–8 were combined in the proportion 16 : 1 (Supplement, p. 12) ; that certain items such as taxes, savings of different sorts, charities and betting were excluded (p. 4); that average alcohol and tobacco spending, because of the well-known tendency to underestimate these items in budgets, were re-estimated at 10s. a week, divided in the proportions 53 per cent to beer, 5 per cent to spirits and wines, 33 per cent to cigarettes and 9 per cent to tobacco (p. 6); that the weights appropriate to rice, sago, etc., coffee and animal food could be considered spread proportionately over all food items; and that holiday spending, meals out, education, etc., could be distributed proportionately over all groups (the assumption being in each case that their price movements follow general price movements) (p. 4, footnotes).

With these clues as to official procedure, and the information on 1937–8 working-class budgets contained in the Ministry of Labour Gazette for December 1940, and January 1941, the expenditures and weights shown in Table I were calculated, with the corresponding weights for June 1947 (from Appendix C. of the Supplement) shown for comparison. In some cases the classification in 1947 is slightly different from that of the 1937–8 budgets, and some rough minor adjustments in weights to meet these changes are described in the footnotes to the Table. All cases in which weights are greater in 1947 than in 1937–8 indicate that the price relatives used by the Ministry for these commodities are greater than the estimated weighted average price rise (and *vice versa*).

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[1] The restriction on expenditure due to rationing does mean, however, that these estimates must be used with some care. While they may not be very inaccurate as a measure of the cost of maintaining the 1937–8 standard, they clearly cannot be used for deflating incomes which have increased by more than enough to maintain this standard, since any such excess must in fact be spent on unrationed goods whose prices have increased very sharply (notably drink and tobacco). Electricity seems at present to be the only major commodity which has become relatively very cheap, and whose consumption is unrationed.

At first it seemed doubtful whether the Technical Committee had recommended the use of the clothing expenditure as shown by the quarterly returns of household expenditure or as shown by the special returns for a whole year of a smaller sample. When the weights were calculated on the first assumption, however, it was found that the weights for men's clothing were higher than for women's (approximately 34 as against 29). Since the corresponding weights for 1947 were higher for women than men (on any reasonable assumption about the allocation of expenditure on clothing materials), this would indicate that women's clothing prices had increased very much more than men's had (about 30 per cent more, in fact). It seems unlikely that any data on prices examined by the Ministry's statisticians would lead them to use price relatives so different for men's and women's clothing. The National Income White Paper indicates, for example, that men's clothing has risen in price slightly more than women's since pre-war. It can therefore be inferred with some confidence that the Technical Committee used the special survey of each household's expenditure on clothing throughout one year. The results of this survey are summarised in the issues of the Ministry of Labour Gazette that contain the summaries of the household budgets.

(The decimal shown in the 1937–8 weight has little meaning itself, but in most cases it will be the same as that which would have been reached by the Ministry, and allows subsequent calculations to be made rather more accurately).

### FOOTNOTES TO PAGES 147 & 148.

[1] Assumed divided equally between fish and potatoes for weighting.

[2] Assumed all in this section of manufactured foods because there was no specified place in the budget for condiments, sauces, salt, jellies, custard powder, invalid foods, etc.

[2a] 2d. is also added to manufactured foods for soft drinks, for weighting.

[3] The arrangement of 1947 weights is different from that of the 1937–8 budgets, and the 1947 weights are regrouped, the weight of 5 for ' clothing materials ' being allocated as 1 to men's clothing, 2 to women's and 2 to children's.

[4] 1½d. is assumed transferred for weighting from gas to household appliances (hiring of apparatus).

[5] ½d. is assumed transferred for weighting from electricity to household appliances (hiring of apparatus).

[6] 3d. is assumed transferred from oil, firewood, etc., to miscellaneous household expenditure (matches).

[7] Miscellaneous expenditure is allocated as follows : 15d. to household appliances (since there is no place for radios, cycles, prams, clocks, electrical goods, etc.), 2½d. to domestic hardware, 2½d. to travel (petrol, etc.), 5d. to other services, and 5d. to be spread evenly (the last being required to fulfil the statement at the bottom of p. 6 of the Supplement that about 3 per cent of the weights are spread evenly).

[8] Licences are believed over-estimated because one week fell in January. 2d. is assumed the average weekly cost of radio licences (added to postage), and ½d. allowed for motoring licences (added to travel), other sorts of licences being in any case apparently excluded from the weighting system.

### TABLE I

*Weights for Retail Price Index, 1937–8 and June 1947*

| *Group* | | *Item* | *Average weekly expenditure in 1937–8 (pence)* | *Weight for 1937–8 (w)* | *Weight for June 1947 (w)* |
|---|---|---|---|---|---|
| I | 1 | Bread ... ... ... ... | 32.4 | 33.7 | 23 |
| | 2 | Flour ... ... ... ... | 10.3 | 10.7 | 7 |
| | 3 | Cakes, etc. ... ... ... | 14.1 | 18.8 | 32 |
| | | Biscuits ... ... ... | 3.9 | | |
| | 4 | Beef ... ... ... ... | 32.0 | 33.3 | 25 |
| | 5 | Mutton and lamb ... ... | 17.1 | 17.8 | 12 |
| | 6 | Pork ... ... ... ... | 6.8 | 25.7 | 23 |
| | | Canned meat ... ... ... | 2.5 | | |
| | | Sausages ... ... ... | 7.5 | | |
| | | Offal ... ... ... ... | 5.4 | | |
| | | Rabbits, etc. ... ... ... | 2.4 | | |
| | 7 | Bacon, ham, etc. ... ... | 22.9 | 23.8 | 18 |
| | 8 | Fish, fresh ... ... ... | 7.1 | 11.6 | 8 |
| | | dried ... ... ... | 2.0 | | |
| | | fried and chips[1] ... | 4.1 | | |
| | 9 | Fresh milk ... ... ... | 36.0 | 38.6 | 32 |
| | | Cream ... ... ... | 1.0 | | |
| | 10 | Butter ... ... ... ... | 29.3 | 30.5 | 19 |
| | 11 | Margarine ... ... ... | 4.8 | 11.8 | 12 |
| | | Lard, etc. ... ... ... | 3.8 | | |
| | | Suet, etc. ... ... ... | 2.7 | | |
| | 12 | Cheese ... ... ... ... | 8.4 | 8.8 | 5 |
| | 13 | Shell eggs ... ... ... | 21.9 | 22.8 | 13 |
| | 14 | Tea ... ... ... ... | 19.7 | 20.5 | 16 |
| | 15 | Sugar ... ... ... ... | 12.7 | 14.3 | 11 |
| | | Syrup, etc. ... ... ... | 1.0 | | |
| | 16 | Potatoes[1] ... ... ... | 12.8 | 15.5 | 11 |
| | 17 | Green vegetables ... ... | 6.9 | 15.0 | 18 |
| | | Dried legumes ... ... ... | 1.0 | | |
| | | Root vegetables ... ... | 5.1 | | |
| | | Onions, etc. ... ... ... | 1.4 | | |
| | 18 | Apples ... ... ... ... | 4.1 | 19.0 | 23 |
| | | Oranges... ... ... ... | 4.2 | | |
| | | Bananas ... ... ... | 2.7 | | |
| | | Other fresh fruits and nuts ... | 3.1 | | |
| | | Dried fruits ... ... ... | 4.1 | | |
| | 19 | Oatmeal, etc. ... ... ... | 2.5 | 35.6 | 40 |
| | | Fish, canned and paste ... | 3.2 | | |
| | | Milk, skimmed ... ... | 0.3 | | |
| | | condensed ... ... | 3.2 | | |
| | | dried ... ... ... | 1.5 | | |
| | | Cocoa ... ... ... ... | 1.5 | | |
| | | Jam, marmalade, etc.... ... | 6.2 | | |
| | | Canned and bottled veg. ... | 1.4 | | |
| | | Canned and bottled fruit ... | 2.9 | | |
| | | Other food [2], [2a] ... ... | 9.4 | | |
| | — | Rice, etc. ... ... ... | 1.3 | — | — |
| | — | Coffee ... ... ... ... | 1.0 | — | — |
| | — | Food for animals ... ... | 1.9 | — | — |
| | | Total food[2a] ... ... ... | 393.5 | 407.7 | 348 |
| II | | Rent ... ... ... ... | 125.7 | 129.6 | 88 |
| III | | Men's clothing and materials... | 27.3 | 28.1 | 31[3] |
| | | Women's do. ... | 30.4 | 31.3 | 33[3] |
| | | Children's do. ... | 11.7 | 12.1 | 13[3] |
| | | Footwear ... ... ... | 18.0 | 18.6 | 20 |
| | | Total clothing[3]... ... ... | 87.4 | 90.1 | 97 |

## TABLE I (*continued*)

*Weights for Retail Price Index, 1937–8 and June 1947*

| *Group* | | *Item* | *Average weekly expenditure in 1937–8 (pence)* | *Weight for 1937–8* (w) | *Weight for June 1947* (*w*) |
|---|---|---|---|---|---|
| IV | 1 | Coal | 37.8 | 40.0 | 41 |
| | | Coke | 1.0 | | |
| | 2 | Gas[4] | 16.7 | 15.7 | 14 |
| | 3 | Electricity[5] | 11.2 | 11.0 | 6 |
| | 4 | Oil, firewood, etc.[6] | 9.2 | 6.4 | 4 |
| | | Total fuel and light[4],[5],[6] | 75.9 | 73.1 | 65 |
| V | 1 | Furniture | 12.7 | 13.1 | 18 |
| | 2 | Household utensils[4],[5],[7] | 3.6 | 21.3 | 24 |
| | 3 | Floor coverings | 6.8 | 7.0 | 11 |
| | 4 | Drapery | 6.6 | 6.8 | 9 |
| | 5 | Ironmongery[7] | 2.2 | 7.4 | 9 |
| | | Brushes and brooms | 1.0 | | |
| | | Pottery and glass | 1.5 | | |
| | | Total household durables[4], [5], [7] | 34.4 | 55.6 | 71 |
| VI | 1 | Soap (incl. flakes) | 9.1 | 9.4 | 8 |
| | 2 | Soda, cleansers, etc.[6] | 4.2 | 7.4 | 9 |
| | 3 | Medicines | 5.9 | 6.1 | 7 |
| | 4 | Newspapers | 11.9 | 14.8 | 11 |
| | | Books, stationery | 2.5 | | |
| | | Total miscellaneous goods[6] | 33.6 | 37.7 | 35 |
| VII | 1 | Rail fares to work[7], [8] | 7.1 | 29.9 | 25 |
| | | Bus, tram fares to work | 10.5 | | |
| | | Other fares | 8.4 | | |
| | 2 | Postage, etc.[8] | 4.9 | 7.1 | 9 |
| | 3 | Cinemas | 10.3 | 16.3 | 18 |
| | | Other entertainments | 5.5 | | |
| | 4 | Clothing repairs | 1.7 | 29.2 | 27 |
| | | Boot and shoe repairs | 6.8 | | |
| | | Hairdressing, etc. | 6.0 | | |
| | | Laundry | 6.2 | | |
| | | Domestic help[7] | 2.6 | | |
| | | Total services[7], [8] | 70.0 | 82.5 | 79 |
| VIII | 1 | Beer | 63.6 | 71.7 | 101 |
| | | Spirits, etc. | 6.0 | | |
| | 2 | Cigarettes | 39.6 | 52.0 | 116 |
| | | Tobacco | 10.8 | | |
| | | Total drink and tobacco | 120.0 | 123.7 | 217 |
| | — | Licences[8] | 6.0 | — | — |
| | — | Misc. expenditure[7] | 30.0 | — | — |
| | | GRAND TOTAL * | 976.5 | 1,000 | 1,000 |

*Other items, assumed to follow the general price level :
Meals, etc., out, 13.1 ; Education, music lessons, 3.6 ; Holidays, 7.4.
Items excluded :
Doctor, dentist, etc., 10.5 ; Hospital funds, 3.2 ; National insurance, 24.5 ; Insurance premiums, 27.8 ; Trade union subscriptions, 15.7

# APPENDIX B

## PRICE RELATIVES AND IMPLIED VALUES OF I

The latest issue of the National Income White Paper (Cmd. 7371) shows a number of indices of price changes for different groups of consumer purchases. These indices are not entirely suitable because they refer to *total* consumer purchases, instead of working-class consumer purchases. And they refer to an increase from the *annual average* prices during 1938 to the annual average prices during 1947, whereas the relatives the Technical Committee will have used are the increases from the average prices over certain dates in 1937–8 (in October 1937, January 1938, April 1938 and July 1938) to the prices operating in mid-June 1947.

The discrepancy in dates is probably the least important. The original cost-of-living index (in those days somewhat less restrained in its movements than it became later) showed an average of 102 for the months indicated in 1937–8, as against 101 for the average of 1938.[1] The pace of price rises seemed to accelerate in the autumn of 1947 because of the combined effects of the autumn budget's increase in purchase taxes and the ceiling imposed on cost-of-living subsidies. So possibly prices in June 1947 were slightly below the average for the year. The wholesale prices index, for example, was at 187.2 in June 1947, compared with an annual average of 189.1 Tobacco prices would be an exception, and the relative for them has to be estimated separately. The effect of the date discrepancies, therefore, might be to cause the White Paper price relatives and therefore the implied estimates of I, the cost-of-living index derived from them, to exaggerate increases but only very slightly. These price relatives and the values of I they imply, using formula (2), are shown in section A of Table II below. In order to allow an assessment of the difference in scope between the groups in the White Paper and in the Retail Price Index, notes on coverage are also given in Table II.[2]

A source of error lies in the fact that the weights are in some cases too small for I to be estimated accurately, since $w_r$ is given only in whole numbers. The extreme case is that of electricity, in which the range of possible values of I is 147.2 to 174.0 ($w_r$ having a possible range of 5.5 to 6.5). The weights in June 1947 are therefore also shown in the Table.

The price rises shown by the sections of the original cost-of-living index for food and a few other commodities are given in section B of the Table. The index number for June 17th, 1947, was compared with the average of the index numbers of November 1st, 1937, February 1st, 1938, April 30th, 1938, and August 2nd, 1938—these being the nearest dates of the weeks for which the working-class expenditure budgets were provided. A column of Notes indicates differences of coverage, and the last column, as for section A, shows the value of I obtained by using the price relative concerned in formula (2).

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[1] Annual Abstract of Statistics, No. 84, Table 302.

[2] The notes on the Retail Price Index group refer generally to the goods the Committee are using for calculating current price relatives. Presumably however the price relative for June 1947, used for changing the weighting system, would have been chosen where possible so as to be comparable to the current ones.

TABLE II

*Estimates of the implied increase in the cost-of-living (I)*

A. *Using National Income White Paper group indices*

| *Group* | *White Paper Group Number and Notes* | *Index of Retail Prices Group Number and Notes* | *June 1947 Weight (w)* | $\frac{W}{w}$ | *White Paper price relatives (p)* | *Implied value of I* |
|---|---|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| Food | 1. Very heterogeneous, and subject to very differential price policy. | I. Much more strictly confined to working-class purchases. | 348 | 1.17 | 153 | 179 |
| Rent and Rates | 4. ' Includes an allowance for buildings occupied by non-profit making bodies and for hotels, boarding houses, etc.' Based on Schedule A assessments, including rental value of owner-occupied houses. | II. A very high proportion would be controlled rents, and owner-occupied dwelling rents relatively few. | 88 | 1.47 | 108 | 159 |
| Men's Clothing | 8*b* (i) Both men's and boy's clothing. Very heterogeneous. Subject to differential price policy (as are all clothing groups.) | III. 1, 2, and one-fifth of 7. Men's clothing and materials, selecting ' the line which is predominantly sold to working-class households '. | 31 | 0.91 | 194 | 176 |
| Women's Clothing | 8*b* (ii) Very heterogeneous. Covers girls' and infants' clothing (including dress materials, knitting wools and haberdashery), as well as women's clothing. | III. 3, 4, and two-fifths of 7. Women's clothing, and clothing materials only. Same qualification re narrowness of scope as for male clothing. | 33 | 0.95 | 192 | 182 |
| All Clothing | 8*b*. | III. 1–7. | 77 | 0.93 | 192 | 178 |
| Footwear | 8*a*. Heterogeneous. | III. 8, 9 and 10. Similarly restricted in scope. | 20 | 0.93 | 175 | 163 |
| All Clothing and Footwear | 8. Heterogeneous. | III. Restricted. | 97 | 0.93 | 189 | 175 |
| Coal | 5*a*. All domestic coal, including miners' coal at pithead prices. | IV. 1. Includes coke. | 41 | 0.98 | 166 | 162 |
| Gas | 5*c*. | IV. 2. | 14 | 1.12 | 145 | 163 |
| Electricity | 5*b*. | IV. 3. | 6 | 1.83 | 87 | 160 |
| Furniture and Furnishings | 6*a*. Very heterogeneous. Includes wireless sets and musical instruments. | V. 1, 3 and 4. | 38 | 0.71 | 231 | 163 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Domestic hardware | 6*b*. Very heterogeneous. Excludes wireless sets and musical instruments, and cycles and sports goods. | V. 2 and 5. Includes wireless sets and musical instruments, and also cycles and sports goods. (The 1937–8 weight is doubtful.) | 33 | 0.87 | 200 | 174 |
| Soap. | 7*b*. Includes scourers. | VI. 1. Soap only. | 8 | 1.18 | 137 | 161 |
| Household non-durables. | 7. Matches, soap, scourers, polishes, candles, cleaning materials, etc. | VI. 1 and 2. Matches, soap, scourers and polishes. | 17 | 0.99 | 150 | 148 |
| Reading matter. | 9. | VI. 4. Includes stationery. | 11 | 1.35 | 120 | 161 |
| Travel. | 11. Includes taxis. | VII. 1. Includes motoring licences (and possibly some motoring expenses). | 25 | 1.20 | 127 | 152 |
| Entertainments. | 13. Admission costs to all entertainments, cinemas being the major ones. | VII. 3. Predominantly cinema. | 18 | 0.91 | 176 | 160 |
| Misc. services. | 14. Medical (other than N.H.I.), undertaking, hotels, hairdressing, domestic, all repairs, assurance costs, property transfers, hire of appliances, etc. Extremely heterogeneous. | VII. 4. Repairs to footwear, laundry, hairdressing, domestic, etc. (1937–8 weight doubtful). | 27 | 1.08 | 149 | 161 |
| Alcohol | 2. Comprehensive. | VIII. 1. Beer relatively much more important. | 101 | 0.71 | 250 | 178 |
| | (Using 1937–8 Budget weights for beer and ' other ' to recalculate combined White Paper Index). | | | | (253) | (180) |
| | (With prices calculated on the basis of volume of liquid instead of alcohol content.)* | | | | (200) | (142) |
| Tobacco | 3. Comprehensive (including gifts to troops overseas). | VIII. 2. Presumably excludes expensive brands. | 116 | 0.45 | 333 | 149 |
| | (Using 1937–8 Budget weights for ' Cigarette ' and other, to recalculate combined White Paper index). | | | | (336) | (151) |
| | (Adjusting for increased price in mid-1947).† | | | | (376) | (169) |

TABLE II (*continued*) B. *Using Cost-of-living Index Price Changes.*

| *Commodity (Retail Price Index Group Number)* | *Notes on scope of cost-of-living index.* | (*July* 1914=100) *Index* 1937–8 (1) | *Index June* 1947 (2) | *Price Relative* ($p$) (3) | *June* 1947 *Weight* ($w$) (4) | $\frac{W}{w}$ (5) | *Implied value of I* (6) |
|---|---|---|---|---|---|---|---|
| I. 1. Bread | | 161 | 178 | 111 | 23 | 1.47 | 162 |
| 4. Beef | (Mean of rib and flank indices) | 132 | 152½ | 115 | 25 | 1.33 | 155 |
| 5. Mutton and lamb | (Mean of British and Foreign legs and breast indices) | 133 | 141 | 105 | 12 | 1.48 | 155 |
| 9. Fresh milk | | 195 | 254 | 130 | 32 | 1.21 | 157 |
| 10. Butter | (Mean for fresh and salt) | 115½ | 116½ | 101 | 19 | 1.61 | 162 |
| 13. Eggs | | 154 | 139 | 090 | 13 | 1.75 | 158 |
| | (Using price per egg shown by the budgets).‡ | (125) | | (111) | | | (195) |
| 14. Tea | | 148 | 185 | 125 | 16 | 1.28 | 160 |
| 15. Sugar and syrup | Sugar only. | 124½ | 145 | 116 | 11 | 1.30 | 151 |
| 16. Potatoes | | 136 | 171 | 126 | 11 | 1.41 | 178 |
| 7. Bacon and ham | Bacon only | 138½ | 167 | 121 | 18 | 1.32 | 160 |
| 8. Fish | Heterogeneous commodity | 205½ | 238 | 116 | 8 | 1.45 | 168 |
| 12. Cheese | | 126 | 116 | 092 | 5 | 1.76 | 162 |
| Total Food | Very heterogeneous, items in the old index being specially liable to subsidy. | 142 | 161 | 113 | 348 | 1.17 | 132 |
| II. Rent & Rates | Excludes houses built since 1914. | 159 | 175 | 110 | 88 | 1.47 | 162 |
| III. Clothing | Very restrictive, excluding women's outerwear, children's clothes, slippers, etc. | 210 | 345 | 164 | 97 | 0.93 | 152 |
| IV. 1. Coal, Coke | | 194 | 307 | 158 | 41 | 0.98 | 154 |
| 2. Gas | | 149 | 217 | 146 | 14 | 1.12 | 164 |
| IV. Total fuel and light (excl. electricity) | | 180 | 283 | 157 | 59 | 1.05 | 165 |

* The previous White Paper (Cmd. 7099) showed a relative of 258 for 1946, which was associated with a relative of 209 for a given volume of beer (*i.e.* for a 'bulk' barrel, instead of a standard barrel). Since prices did not greatly change in 1947, and other alcohol prices had a lower relative, it can be estimated that on a volume basis the relative for 1947 might have been about the 200 shown for all alcohol.

† It was assumed that one-third of 1947 tobacco consumption was consumed at 1946 prices (allowing for a time lag before tobacco price rises were effective, and for the fall in consumption), which implies the price index shown for June 1947.

‡ Because of the elastic demand for eggs. The first index, like the others shown, is based on the average of the four prices at the dates indicated above.

If we group the implied estimates of I, we have :—

| Implied Estimate of I | Number of Estimates |
|---|---|
| 130–4 | 1 |
| 135–9 | — |
| 140–4 | 1 |
| 145–9 | 2 |
| 150–4 | 5 |
| 155–9 | 5 |
| 160–4 | 16 |
| 165–9 | 3 |
| 170–4 | 1 |
| 175–9 | 6 |
| 180–4 | 2 |
| 185–9 | — |
| 190–4 | — |
| 195–9 | 1 |
| Total | 43 |

The mean, median and mode of this distribution are respectively 162.7, 162 and 161.8. That all values of I are not identical is due to random errors in rounding and biassed errors in the price relatives used.[1] Since the median and the mean depend on whether more relatives with an upward bias than with a downward bias are used, the mode is the most appropriate measure. However it seems preferable to proceed by eliminating price relatives which we can expect to be biassed.

For alcohol the Supplement states that :—

> ' It is possible, however, to adjust the price each month to allow for the extra duty which would have been payable if it (beer) had been of the strength which prevailed in 1938, and this adjustment goes some way towards giving a series reflecting the movements in the price of beer of unchanged quality ' (p. 26).

The resultant series is described as a ' compromise ' between the alternatives of a series of beer prices ignoring changes in strength (*i.e.* on a ' bulk barrel ' basis), and a series of the price of a certain volume of alcohol (*i.e.* on a ' standard barrel ' basis). The series used ' may be said to reflect the fact that the purchaser of a glass of beer is not only concerned with the alcoholic content, but also with the quantity of liquid refreshment, service, recreation, social intercourse and amenities of the public house.'[2] The Technical Committee would presumably have used a price relative constructed in the same way for calculating the 1947 weight, so that the implied value for I would be somewhere between the values of 142 and 180 shown in Table II—values which would have been implied by the change in weights if respectively constant volume and constant alcohol content had been used as bases for calculating the price relatives. For tobacco a precise calculation cannot be made. If only standard brands of cigarettes are considered, the price increase is from 6d. to 1s. 8d. for 10, which gives a price relative of 367 (compared with 365 for ' all cigarettes ' by the method indicated in the footnote to Table II) implying a value for I of 164, but the inclusion of sub-standard brands and various tobacco brands might indicate a different relative, and the method used cannot be inferred. So the values implied by alcohol and tobacco for I must be eliminated.

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[1] Bias being due to the fact that the price increase in working-class purchases is not properly measured either by the increased price of all consumer purchases, or by the increase in the prices of goods represented in the old cost-of-living index.

[2] The drafter appears to take the slightly more idealistic view on the functions of the public house.

In section A we can eliminate food, clothing and household durables as being groups which are heterogeneous and subject to a differential price policy. The Technical Committee would use other and lower indices for working-class purchases than those given in the White Paper. The groups of furniture and domestic hardware are too different from those of the index for the price relatives to be necessarily applicable to the goods covered by the index sections.

The section A groups which are left are presumed to give values of I mainly free from bias, as far as differences of scope are concerned. The random errors due to the use of whole numbers for the second set of weights are still present, but to deal with these we indicate, as well as the implied value, the range of implied values of I which are possible.[1]

| | *Implied value of I* | *Range of implied values* | | *Implied value of I* | *Range of implied values* |
|---|---|---|---|---|---|
| Rent and rates | 159 | 158.1—159.9 | Household non-durables | 148 | 144.8—152.7 |
| Coal | 162 | 160.0—164.0 | Reading matter | 161 | 154.4—169.2 |
| Gas | 163 | 157.0—168.6 | Travel | 152 | 148.9—155.0 |
| Electricity | 160 | 147.2—174.0 | Entertainments | 160 | 155.1—163.9 |
| Soap | 161 | 151.5—171.7 | Miscellaneous services | 161 | 158.2—164.2 |

Of these ten groups, seven could be satisfied by any value of I in the range 158.2—163.9 (though not the same 7 by all values in that range since in the range 158.2 to 159.9 rent would be satisfied but not coal). It seems obvious that I cannot be below 155, and the implied values given by household non-durables and travel can therefore be ignored. (They are categories which contain differences of definition that make them of doubtful value anyway). The mean of the implied values of I for the remaining categories is 160.8.

Bias in the groups of section B, though this time in a downward direction, can be expected in the same groups as for A, namely total food and clothing, because of the tendency to direct subsidies towards items included in the old cost-of-living index. The results from meat and butter groups have to be discounted because of the difficulty of knowing what weights would be given to the different types,[2] and total 'fuel and light' is not comparable with the index group. This leaves the following implied values for I:[3]—

| | *Implied value of I* | *Range of implied values* | | *Implied value of I* | *Range of implied v4lues* |
|---|---|---|---|---|---|
| Bread | 162 | 159.2—166.3 | Bacon | 160 | 155.6—164.6 |
| Milk | 157 | 154.4—159.3 | Fish | 169 | 158.3—179.5 |
| Eggs | 158 | 152.0—164.2 | Cheese | 162 | 147.2—180.0 |
| Tea | 160 | 155.3—165.4 | Rent and Rates | 162 | 161.0—162.9 |
| Sugar | 151 | 144.2—158.0 | Coal | 154 | 152.5—156.3 |
| Potatoes | 178 | 169.8—186.0 | Gas | 164 | 158.1—169.8 |

Eight of these twelve groups would be compatible with a range of I from 159.2 to 159.3 or 161.0 to 162.9, and seven by 158.3 to 159.2, 159.3 to 161.0 or 162.9 to 164.2 This increases the presumption that I is within the range

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[1] By using the highest and lowest possible values of W in formula (2).

[2] The price relatives for foreign mutton for example were 93 for breast and 115 for legs.

[3] The Technical Committee appears, incorrectly, to have ignored the elasticity of demand for eggs, since a price relative allowing for elasticity gives a quite extreme value for I.

158.2 to 163.9 indicated by the unbiassed values in section A, and suggests that the cost-of-living price relative was not used for coal or sugar (the new weighting system in any case referring to ‘ coal and coke ’ and ‘ sugar and syrup ’). The high value of I implied by the potato index suggests that it was mistaken to allocate ‘ Fish and Chips ’ equally between fish and potatoes. If potatoes were allotted $1\frac{1}{2}$d. instead of 2d., for example, an implied value for I of 164 would be possible.[1] This however also means that the value of I implied by the price relative for fish would have to be adjusted upwards, so that the value shown must be discarded. For the remaining groups, the mean of the implied values of I is 160.6.

It seems therefore that the Technical Committee probably compiled individual food price relatives in most cases from the data used to compute the cost-of-living index, and fuel and light price relatives from the material used in reaching the National Income White Paper estimates. It would also appear more likely that they used the rent price relative implied by the cost-of-living index, than by the National Income White Paper, and price relatives similar to those used in the National Income White Paper for soap, entertainments and miscellaneous services.

These give us, from both sections, 14 estimates of I ranging from 157 to 163. The estimates implied by milk (157) and eggs (158) are, however, the only ones under 159, and it seems that a different price relative has been used from the ones obtained above. (These commodities are particularily subject to seasonal influences and it may be that the cost-of-living price indices have been used, but with different base dates). This leaves 12 estimates of I ranging from 160 to 163 and with a mean of 161.2. The values of 161 and 162 would lie in the possible range of all 12. These values would also satisfy other relatives which have been excluded because of difficulties of definition—footwear and furniture from section A, and butter from section B, and they are consistent with a relative for alcohol which is half-way between those given by ‘volume’ and ‘alcohol content’ bases.

The value of I given by equation (2), using whole number values for $w$, is not in fact the best estimate of I. Since I is an inverse variable of $w$, and $w$ is equally likely to have any value over a range 0.5 each side of the whole number shown, the expected value of I is not the value given by the centre of that range (i.e. the whole number). If I′ is the expected value of I, we have, from equation (2) :—

$$I' = w_r p_r \frac{\displaystyle\int_{w_r - 0.5}^{w_r + 0.5} \frac{dw}{w}}{\displaystyle\int_{w_r - 0.5}^{w_r + 0.5} dw} = w_r p_r \log_e \frac{w_r + 0.5}{w_r - 0.5} \qquad (4)$$

The mean I′ from all the eleven groups is 161.3.[2]

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[1] Possibly some allowance was made for cooking fats used in frying fish and chips.

[2] This assumes that price relatives for these groups are equally likely to approximate to those used by the Technical Committee.

By different methods, therefore, we obtain estimates for I of 161.8, 161.2 and 161.3. So it seems highly probable that in the Technical Committee's opinion the cost-of-living in June 1947 was approximately 61 to 62 per cent above that at the time the budgets were collected in 1937–8. It is extremely unlikely, for example, that their conclusion was that the cost-of-living was, say, only 55 per cent higher, since this conclusion would have involved using different price relatives for a number of homogeneous commodities (such as bread, tea, bacon and fuel) than those most suitable and most readily available. Such a value would imply an increase in 'rent and rates' of only about 5 per cent, even lower than the 10 per cent shown by the cost-of-living index. It would moreover hardly have been compatible with the price relatives for other homogeneous commodities, since the approximation involved in using whole number values for $w$ would be most unlikely to cause persistent errors in estimating I—all in the same direction.

## APPENDIX C

### Increases in Prices of Commodities bought by the Working-Class

Table III shows the price relatives for each commodity group in the index obtained by using formula (3), expressed as index numbers.[1] In some cases, where the weight attributable to each item in 1937–8 is not known precisely, because of regrouping, the index is not firm, and is therefore shown in brackets[2]—though the amount of regrouping between totals of groups was not sufficient to affect their relatives greatly, and these index numbers are therefore shown without brackets. For comparison, the second and third columns show roughly corresponding index numbers for each item from the old cost-of-living index[3] and the National Income White Paper respectively.

The right-hand side of the Table shows first the amount spent by the average working-class household on each commodity in 1937–8, and then, in the last column, the cost of the same goods in June 1947. This column does not depend on the grouping of the items of the 1937–8 budget, since it can be derived directly from the June 1947 weight, which is published, and the *total* cost of the 1937–8 budget at June 1947, which can be found from I and the original cost of the 1937–8 budget. The figures in the last column must be the approximate base expenditures for the new Retail Prices Index.

The dispersion of price relatives used indicates how carefully the Technical Committee estimated price changes for calculating the new weights, and hence that their estimate of I is much more valuable than the Supplement alleges.

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[1] These are estimates of the price relatives used by the Technical Committee, which may not be very well based in all cases, though the information at the Committe's disposal is of course, considerable.

[2] In addition, there may be random errors in individual items due to the rounding, of the June 1947 weights, especially where these weights are small.

[3] Calculated as in Table II.

### Table III

*Price Indices for Working-Class Purchases, and the cost of the average household budget of 1937–8, at 1937–8 and at June 1947 prices.* (Totals do not always equal the sum of items, because of rounding).

| | | *Estimated working-class price index for mid-June 1947* | *Old cost-of-living index for mid-June 1947* | *National Income White Paper price index for ave. of 1947* | *Average weekly expenditure 1937–8* | *Cost of same goods June 1947* |
|---|---|---|---|---|---|---|
| | | *(1937–8=100)* | *(1937–8=100)* | *(1938 ave.=100)* | s. d. | s. d. |
| I Food | 1 Bread ... ... ... ... | 110 | 111 | | 2 8 | 3 0 |
| | 2 Flour ... ... ... ... | 106 | | | 10 | 11 |
| | 3 Biscuits, cakes, buns, etc. ... | 275 | | | 1 6 | 4 1 |
| | 4 Beef ... ... ... ... | 121 | * | | 2 8 | 3 3 |
| | 5 Mutton and lamb ... ... ... | 109 | † | | 1 5 | 1 7 |
| | 6 Other meat... ... ... ... | 145 | | | 2 1 | 3 0 |
| | 7 Bacon and ham ... ... ... | 122 | 121[1] | | 1 11 | 2 4 |
| | 8 Fish ... ... ... ... | (111) | 116 | | ( 11) | 1 0 |
| | 9 Fresh milk ... ... ... ... | 134 | 130 | | 3 1 | 4 2 |
| | 10 Butter ... ... ... ... | 101 | ‡ | | 2 5 | 2 5 |
| | 11 Other fats ... ... ... ... | 164 | | | 11 | 1 7 |
| | 12 Cheese ... ... ... ... | 92 | 92 | | 8 | 8 |
| | 13 Eggs ... ... ... ... | 92 | 90[2] | | 1 10 | 1 9 |
| | 14 Tea ... ... ... ... | 126 | 125 | | 1 8 | 2 1 |
| | 15 Sugar and syrup ... ... ... | 124 | 116[3] | | 1 2 | 1 5 |
| | 16 Potatoes ... ... ... ... | (115) | 126 | | (1 3) | 1 5 |
| | 17 Other fresh vegetables ... ... | 194 | | | 1 2 | 2 4 |
| | 18 Fresh and dried fruit ... ... | 195 | | | 1 6 | 3 0 |
| | 19 Misc. manuf. foods ... ... | (181) | | | (3 2) | 5 2 |
| | Other foods[3a] ... ... ... | (138) | | | ( 4) | 6 |
| | Total Food ... ... ... ... | 138 | 113 | 153 | 33 0 | 45 5 |
| II Rent and Rates ... ... ... ... | | 110 | 110 | 108 | 10 6 | 11 6 |
| III Clothing: | | | | | | |
| | Men's clothing and materials ... | (178) | | 194[4] | 2 3 | (4 1) |
| | Women's do. ... ... ... | (170) | | 192[5] | 2 6 | (4 4) |
| | Children's do. ... ... ... ... | (173) | | | 1 0 | (1 8) |
| | All Clothing ... ... ... ... | 174 | | 192 | 5 9 | 10 0 |
| | Footwear ... ... ... ... | 174 | | 175 | 1 6 | 2 7 |
| | Total Clothing and Footwear ... ... | 174 | 164 | 189 | 7 3 | 12 8 |

* Ribs 109, flank 123. † Brit.: legs 109, breast 101. Foreign: legs 115, breast 93. ‡ Fresh 93, salt 109.

TABLE III (continued)

*Price Indices for Working-Class Purchases, and the cost of the average household budget of 1937–8, at 1937–8 and at June 1947 prices.* (Totals do not always equal the sum of items, because of rounding).

| | *Estimated working-class price index for mid-June 1947* | *Old cost of living index for mid-June 1947* | *National Income White Paper price index for ave. of 1947* | *Average Weekly expenditure 1937–8* | | *Cost of same goods June 1947* | |
|---|---|---|---|---|---|---|---|
| | *(1937–8=100)* | *(1937–8=100)* | *(1938 ave.=100)* | s. | d. | s. | d. |
| IV Fuel and Light | | | | | | | |
| 1 Coal and coke ... ... ... | 166 | 158[6] | 166[6] | 3 | 3 | 5 | 4 |
| 2 Gas ... ... ... ... ... | (144) | 146 | 145 | (1 | 3) | 1 | 10 |
| 3 Electricity ... ... ... ... | (88) | | 87 | ( | 11) | | 9 |
| 4 Oil, firewood, etc. ... ... ... | (101) | | | ( | 6) | | 6 |
| Total Fuel and Light ... ... ... | 144 | 157[6a] | 157 | 5 | 11 | 8 | 6 |
| V Household durables : | | | | | | | |
| 1 Furniture ... ... ... ... | 222 | | 231[7] | 1 | 1 | 2 | 4 |
| 2 Appliances ... ... ... ... | (182) | | | (1 | 9) | 3 | 1 |
| 3 Floor coverings ... ... ... | 254 | | | | 7 | 1 | 5 |
| 4 Drapery ... ... ... ... | 214 | | | | 7 | 1 | 2 |
| 5 Hardware, pottery, glass ... ... | (196) | | 200[8] | ( | 7) | 1 | 2 |
| Total Household Durables ... ... | 206 | | 218 | 4 | 6 | 9 | 3 |
| VI Miscellaneous Goods : | | | | | | | |
| 1 Soap ... ... ... ... ... | 137 | | 137[9] | | 9 | 1 | 1 |
| 2 Soda, cleansers, matches, etc. ... | (196) | | | ( | 7) | 1 | 2 |
| 3 Medicines, toilet goods ... ... | 185 | | | | 6 | | 11 |
| 4 Reading matter ... ... ... | 120 | | 120[10] | 1 | 2 | 1 | 5 |
| Total Miscellaneous Goods ... ... | 150 | | | 3 | 1 | 4 | 7 |
| VII Services : | | | | | | | |
| 1 Travel ... ... ... ... | (135) | | 127[11] | (2 | 6) | 3 | 3 |
| 2 Postage, etc. ... ... ... | (202) | | | ( | 7) | 1 | 2 |
| 3 Entertainment ... ... ... | 178 | | 176 | 1 | 4 | 2 | 4 |
| 4 Other services ... ... ... | (149) | | 149 | (2 | 4) | 3 | 6 |
| Total Services ... ... ... ... | 155 | | | 6 | 8 | 10 | 4 |

| | | | | s. d. | s. d. |
|---|---|---|---|---|---|
| VIII Drink and Tobacco : | | | | | |
| 1 Alcoholic drink ... ... ... | 227 | | 250[12] | 5 10 | 13 2 |
| 2 Tobacco ... ... ... ... | 360 | | 333 | 4 2 | 15 2 |
| Total Drink and Tobacco ... ... | 283 | | 286 | 10 0 | 28 4 |
| Other expenditure[13] ... ... ... | (161–2) | | | 2 9 | 4 5 |
| GRAND TOTAL ... ... ... ... | 161–2 | 129 | 168 | 83 7 | 134 11 |

[1] Bacon only. [2] Calculated on an average quarterly price for 1937-8 (not the average price paid). [3] Sugar only.
[3a] Coffee, sago, rice, etc., and food for animals, excluded from the weighting system for food.
[4] Men's and boys' wear. [5] Women's, girls' and infants' wear. [6] Coal only. [6a] Excl. electricity. [7] Furniture and furnishings.
[8] Includes appliances. [9] Includes scourers. [10] Excludes stationery.
[11] Excludes motoring (*e.g.* motoring licences).
[12] On an alcoholic content basis (the relative in the first column apparently takes volume of liquid also into account).
[13] Education, music lessons, holiday expenditure, other licences and meals out, all of which are assumed by the Technical Committee to follow the general index and are excluded from the weighting system.

## APPENDIX D

### WORKING-CLASS FOOD PURCHASES, PRE-WAR AND IN JUNE 1947

The average persons per household shown by the 1937–8 budgets (assuming that one-third of those under 14 were under 5, and weighting industrial and agricultural households in the ratio 16 to 1) were as follows :—

| | |
|---|---|
| Age 0– 5 | 0.33 |
| 5–18 | 0.98 |
| 18+ | 2.46 |
| Total | 3.77 |

Weighting 1937–8 food purchases of industrial and agricultural households also in the ratio 16 to 1, and multiplying the rations available on different ration books in June 1947 by the number of persons in each age group, we can draw up Table IV, which compares weekly purchases of a standard household before and after the war. (Note that the 1937-8 budgets were only collected from the households of those *in employment*. Average working-class purchasers, including the unemployed, would have been lower than those shown here.

TABLE IV

*Weekly purchases of some main foodstuffs by a Standard Household of 3.77 Persons, 1937–8 and June 1947—(lbs.)*

| | *Average purchases 1937–8* | *Rations June 1947* |
|---|---|---|
| Bread ... ... ... ... | 13.6 | 13.9[1] |
| Flour ... ... ... ... | 4.5 | 1.4[1] |
| Meat ... ... ... ... | 4.7 | about 3.6[2] |
| Bacon, ham ... ... ... ... | 1.4 | 0.5[3] |
| Milk (pints) ... ... ... | 11.0 | 13.1[4] |
| Butter ... ... ... ... | 1.8 | 0.8[5] |
| Margarine ... ... ... ... | 0.7 | 0.8[5] |
| Lard ... ... ... ... | 0.5 | 0.3 |
| Cheese (sold by weight) ... ... | 0.7 | 0.5 |
| Tea ... ... ... ... ... | 0.7 | 0.5 |
| Sugar ... ... ... ... | 4.9 | 1.9[6] |
| Jam and marmalade ... ... | 1.0 | 0.9 |
| Shell eggs (no.) ... ... ... | 13.8 | about 4.7[7] |

---

[1] On the assumption that there is one adult manual worker in the household, its total B.U.s per week would be about 39. These are assumed to be spent so that the quantities of bread, flour and cakes (incl. buns) were in the same proportions as were shown by the average households in 1946 (*vide* 'Working-Class Income and Household Expenditure', by Miss T. Schulz, BULLETIN, Vol. 9, pp. 133 *et seq.*). This would involve an outlay of B.U.s as follows : Bread, 32 ; Flour, 4 ; Cakes and Buns, 2½.

[2] A price of 1d. per ounce of meat is assumed. [3] Bacon only.

[4] Excluding special priorities, school milk, etc.

[5] Margarine could be taken instead of butter, and margarine consumption would be rather higher than butter.

[6] Excluding special allocations.

[7] Based on a ration of 61 per annum for those over 2.

The effect of food restrictions can be roughly indicated by estimating how much the cost-of-living would have risen if the working-class household had only bought these rations at both dates. Strictly we ought to allow for other rationing also, but it is doubtful whether working-class clothing and fuel purchases are greatly reduced below pre-war standards by rationing, and in any case fuel and clothing do not differ greatly from the average price rise—the distorting effect of food restrictions being due to the fact that they apply to goods whose price has increased least. If we reduce the weighting of the food items shown in Table IV, by the proportions indicated, increasing the weighting of other items correspondingly, and use the price relatives given in Table III, we get an index number of 167.0. This figure measures the increased cost of the 1937–8 living standard on the assumptions that money saved by reducing spending in 1937–8 (if expenditure in food had been restricted then by rationing like that in force in June, 1947) could have been spread proportionately over all other purchases without net loss of satisfaction, and that expenditure could be distributed in this way in June 1947. This is, of course not likely to be true, since it is presumed that the actual budget in 1937–8 represented a maximisation of satisfaction (so that a shift of spending in any way must therefore of itself imply a loss of satisfaction). Also the weighting system so adjusted still did not represent a possible distribution of expenditure in June 1947, because of other shortages (*e.g.* food on points, clothing and fuel). It does however indicate the magnitude of the error introduced by rationing.[1]

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[1] It seems that meat, bacon, fats, sugar and eggs were the only foodstuffs for which working-class consumption was considerably reduced below pre-war levels by rationing:

# THE FALL IN CONSUMPTION.[1]

The appearance each year of the White Paper on National Income affords the occasion for an attempt to form a picture of the economy as a whole. There is one difficulty to which the current issue invites renewed attention; it is a feature which does not seem to fit easily into a schematic representation of our position. The White Paper concludes that total personal consumption is slightly up. How does one reconcile this with the following facts? A larger proportion of our resources is being devoted to export than before the war; a larger proportion is being devoted to capital outlay; a slightly larger proportion is being devoted to defence; a larger proportion is being devoted to the provision of services by the Government, which fall outside personal consumption. The general testimony of producers is that output per man is somewhat down; no doubt the prevailing middle-class pessimism in this regard must be discounted; there are cases on record in which production is up, but it would seem imprudent to deny that on average there has been some retrogression. How then is it possible that personal consumption should not be down? Surely all these additional claims on our resources cannot have been met by the pre-war unemployed who have been taken into work?

Examining the White Paper in search of a solution of this difficulty, I came upon what seemed to be an internal discord, by comparing Table 4 from which may be computed an index of the rise of money costs per man employed and Table 21 which gives figures for rises in prices. How can prices not have risen more, if costs have risen so much?

A discord with other data may also be observed. By comparing Table 21 and Table 22, it can be computed that the rise of prices for home goods and services, ex subsidies and indirect taxes, is deemed to have amounted to fractionally less than 61 per cent. From the Board of Trade returns, we know that export prices in 1947 were up 130 per cent by comparison with 1938. How is it possible that the vast range of goods and services entering into home consumption only rose 61 per cent, net of indirect taxes and subsidies, while another vast range of goods entering into the export trade rose 130 per cent? These two great categories contain many common items. And many common causes affect the items which are not common.

The White Paper does indeed give us a lead towards a possible answer, by observing that full allowance has not been made for changes in quality. One interpretation of the following calculations might be that they give an arithmetic measure of the decline in quality. This would be interesting. I surmise, however, that this factor does not account for the whole difference between my conclusion in regard to consumption and that of the White

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[1] On April 24th, a letter appeared in *The Economist* over my name on this topic, based on calculations similar to those which follow. In composing this note, I have made the calculations entirely de novo. The results accord fairly closely with those previously made, save those resulting from a concession in regard to the efficiency of 'services', which I have introduced at the final stage as stated in the text.

Paper, and that part of the difference is due to the prices on which the White Paper relies being biased on the low side. It is only to be supposed that the authorities do not get reports of many high prices that are actually being charged to consumers. At the top of page 42, the White Paper reads ' The method used in calculating the figures of Table 21 has in every case been to revalue at the appropriate 1938 prices as many individual items as possible within each group of goods and services bought in any year.' The prices for 1938 may be all right, but can we be sure that those for 1947 were ? May not the ' impossible ' goods have been precisely those for which exorbitant prices were charged? And even the other goods may have been sold at varying prices, of which the higher ones may have escaped official cognisance.

I begin with a table which shows the cost components, as percentages, of total production in 1938. These figures are derived from the first column of Table 4 of the White Paper. Interest on the National Debt has been subtracted, and pay and allowances of the armed forces omitted. Imports, valued c.i.f., have been added.

TABLE I

Average cost of production per man-year of employment.
1938

| | |
|---|---|
| Wages ... ... ... ... | 31.59 |
| Salaries ... ... ... | 20.21 |
| Rent ... ... ... ... | 6.92 |
| Profit and interest ... ... | 24.53 |
| Imports ... ... ... ... | 16.73 |
| | 100 |

The next task is to construct a table of costs in 1947 from the data provided in the right hand column of Table 4 of the White Paper, with 1938 as base. Again interest on the National Debt has been subtracted, and pay and allowances of the armed forces omitted. I have taken actual imports, valued c.i.f. Although the average price of imports has risen by 148 per cent, they did not rise as much as this as a component of the cost of production, because the volume of imports was down, and however much producers may have needed the old volume of imports, they have had to make do without them. (It may be noted that this fact in itself must make one sceptical about the possibility of production on export, capital and consumption all having risen.) To get the wage components, I have deflated the 1947 figure shown in Table 4 to allow for the increase of the ' Total employed in industry '. Thus my cost component reflects the rise in money cost per man year of those employed. In order to obtain comparable coverage, I have taken figures provided in Table 4 of the Statistical Digest. The pre-war figure unhappily relates to June 1939. The deflection of manpower into the forces between 1938 and 1939 was more than offset by the decline in unemployment. There may be a margin of error here, but it is a small one.

In the case of each of the other items in the composition of cost, including imports, I have deflated by the same fraction. It does not really matter to this calculation how much capital in total was used in industry, or what the rate of return on capital was. It suffices to know what cost was incurred in respect of profits and interest per man year of employment; and so with the other items.

TABLE II

Average money cost of production per man-year of employment, assuming output per man to be the same as in 1938.

1947 (Base, 1938)

| | |
|---|---|
| Wages ... ... ... ... | 61.93 |
| Salaries ... ... ... | 30.17 |
| Rent ... ... ... ... | 7.016 |
| Profits and interest ... ... | 47.33 |
| Imports ... ... ... ... | 31.36 |
| | 177.806 |

The average cost of production, with a base of 100 at 1938, was thus 177.806 in 1947, and must be compared with the suggested figure for the prices for home goods and services of 161 and the reliable figure for export goods of 230.

It is clear, of course, that the cost components of exports must be differently weighted from those of home consumption. Imports enter much more largely into the former than into the latter. These have risen most in price. Rents on the other hand, which have risen least, and salaries, which have risen less than the average, clearly enter less into exports than into home consumption. Home consumption includes many items of service character, in which salaries are probably a large constituent.

I have accordingly endeavoured to calculate a possible split between export prices and home consumption prices. In this, I have adopted assumptions as unfavourable as possible to my argument. Although we are not concerned with the prices or volume of net additions to capital, I have included a column for these, since the weighting of constituent items in that column must affect the other weights. I have given a very low weighting to both rents and salaries in the capital and export columns alike. I do not think I could well have depressed these items further. They could not be excluded altogether. Capital work no doubt includes a larger proportion of imported goods than home consumption of goods and services, but, owing to the presence of building, probably not so high a proportion as exports. For the volume of activity in each category in 1938 I have weighted consumption : net capital : exports, at 8:1:1; for 1947 the weights are 6:1:1. These are, of course, only approximate, but fine changes would not alter the general conclusion. In choosing these weights, I have deliberately only taken net additions to capital. Gross capital outlay is in part offset by depreciation allowances, and these enter into the prices of goods whether for export or home consumption.

In Table 3 which follows, the weighted average of the figures in each line is equal to the figure in the same line of Table 1; and the weighted average of the figures in each line of Table 4 is equal to the figure in the corresponding line of Table 2. The items are worked out as follows. I have taken very low arbitrary figures for rents and salaries in ' net capital ' and ' exports '. Salaries are raised in 1947 in proportion to the general rise shown in Table 2. The figures for salaries and rents in column 1 of Tables 3 and 4 are consequential. Next I have put in arbitrary figures for imports for columns 2 and 3 of Table 3. I have endeavoured to weight the argument as heavily as possible against myself. In the case of exports I have assumed in Table 4 that producers will need as much import content as before on the basis that they cannot cut the quality of their exports. Thus the right hand bottom figure of Table 4 is raised above the corresponding figure in Table 3 by the full amount of the rise in import prices (148 per cent increase). I am led to think that I have gone as far as it is possible to go in loading the case against myself here, for in 1947 I have only left £1,105 million imports c.i.f. for home consumption, which, after deducting food, drink and tobacco, is only £300 million, or about one-sixth of the total of imports. It must be remembered that this has to include materials required for the maintenance and replacement of equipment making consumer goods for the home market. I do not think we can go further than this, and I have probably gone too far. In Table 3, I have given profits and interest an equal weight throughout, and have raised them equi-proportionally in Table 4. In Table 3, wages is the residual figure, assessed so that the weighted average is equal to the wage component shown in Table I.

TABLE III

Average money cost of production per man year of employment.

1938

| | (i) Home Consumption | (ii) Net additions to capital | (iii) Export |
|---|---|---|---|
| Wages ... ... | 27.7 | 49.5 | 44.5 |
| Salaries ... | 24 | 5 | 5 |
| Rent ... ... | 8.5 | 1 | 1 |
| Profits and interest | 24.5 | 24.5 | 24.5 |
| Imports ... ... | 15.3 | 20 | 25 |
| | 100 | 100 | 100 |

TABLE IV

Average money cost of production per man year of employment, assuming output per man to be the same as in 1938.

1947 (Base, 1938)

| | (i) Home Consumption | (ii) Net additions to capital | (iii) Exports |
|---|---|---|---|
| Wages ... ... | 52.7 | 94.5 | 84.5 |
| Salaries ... ... | 37.7 | 7.5 | 7.5 |
| Rent ... ... | 9 | 1 | 1 |
| Profits and interest | 47.3 | 47.3 | 47.3 |
| Imports ... ... | 25.7 | 34 | 62 |
| | 172.4 | 184.3 | 202.3 |

We now come to the final stage. Export costs, including profit, show 202.3 against 100 in 1938; export prices show 230 against 100 in 1938; this means that export prices have risen 13.7 per cent above cost as computed, and implies a loss of efficiency in the export trade of 12 per cent. This figure by no means clashes with the general testimony of entrepreneurs. Rumours are current that the quality of British exports has fallen. We may hope that the rumours are unfounded. If they are true, this means that efficiency has fallen yet further; even if the loss of quality were primarily due to lack of materials to put into the exports, the same conclusion must be drawn, because it would mean that the import-cost component of exports has been put too high in my calculation, and therewith the total cost of exports. Any short fall in the money cost of exports, as compared with that shown in the table, would imply lower efficiency since export prices are known.

We next have to consider the question of efficiency in the production of home goods and services. The cost shown in Table 4 implies that the output of a man year was the same in 1947 as in 1938. In view of the result of the export calculations, this cannot be assumed. Where goods come from the various industrial processes, it is proper to assume a drop in the efficiency of producing goods for the home market equal to the drop in work done for exports. It is probable, however, that we should regard certain categories somewhat differently, namely, agriculture, horticulture, fishing, distributive trades, commerce and finance, professional and personal service, entertainments, catering, laundries, etc. In my calculations for the *Economist*, I assumed that efficiency in these had only fallen 3 per cent. As a concession to the other side, I will now assume that efficiency has not fallen at all. This is not really plausible. Loss of efficiency is no doubt due to a large number of factors, and it is unlikely that these are all confined to industry in the narrower sense. One may get into the habit of thinking that the primary cause of the loss of efficiency in industry is the system of central allocation of materials. But it is unlikely that this is the only cause. Inflationary pressure produces disturbances throughout the economic system. Even the professional man, who may lack sufficient petrol, has to wait in queues, has to make a tour through many shops to buy a necessary article, has to engage in voluminous and vexatious correspondence about matters which could previously have been settled by one letter, or without one, can hardly hope to cram as much professional service into a day as he could have in 1938. On the charitable assumption that there has been no loss of efficiency in the broad categories referred to above, we find that there are 6,982 thousand persons engaged on work for home consumption, in which a loss of efficiency of 12 per cent has to be assumed, and 5,557 thousand with no loss of efficiency. This gives an average loss of efficiency of 7 per cent.

According to Table 22 of the White Paper, consumer goods and services in 1938, ex subsidies and indirect taxes, cost £3,713 million. Applying the cost index shown in column 1 of my Table 4, and allowing a loss of efficiency of 7 per cent, these would now cost £6,888 million. Actually what we had only cost £6,161 million. This implies that consumption was down 10.5 per cent in total, or 14 per cent per head.

This conclusion by no means jars with experience. How far the difference with the White Paper estimate is due to the decline in quality which the White Paper recognises as a factor which it has not taken into account, and how far to prices used by the White Paper being biased on the low side, I know no means of determining. It must be noticed that if our exports are of inferior quality, the reduction in consumption must be pro tanto greater, since exports are the yard stick in this calculation.

The expression 'decline in quality' is apt to arouse inappropriate associations in the mind, suggesting ornament and varnish which the consumer can get along without. In more cases the article of lower quality will wear out more quickly and have to be replaced earlier. If a consumer had to buy two kettles in four years, where one of pre-war quality would have lasted the whole period, his kettle consumption would not have doubled; the official statistics might show kettles standing at 61 per cent above the pre-war level; in this case the true rise of price would have been 222 per cent.

I stress finally that the above calculations are tightly interlocked. To challenge my Table 2 implies challenging Table 4 of the White Paper. Each of the items in my 3 and 4 is governed by the rule that the weighted average of each line must be equal to the corresponding figure in Tables 1 or 2. By altering certain assumptions, one might get slightly different results, but the broad result of a very large decline in consumption would not be altered.

At two important points I have taken, not the most probable estimates, but estimates biased to the extreme limit of probability against my thesis, namely (1) the very high weighting of imports and very low weighting of salaries in the cost of exports, and (2) the assumption that, despite the clear loss of efficiency in production for exports, a broad range of activity on behalf of the home consumer has maintained its old efficiency. It may well be, therefore, that the decline in consumption is here understated.

R. F. Harrod.

# A NOTE ON FURTHER COAL DEVELOPMENTS.

A paper published in the October 1947 BULLETIN gave some seasonally corrected estimates of coal production.[1] The table below extends the seasonally corrected figures through the winter months, calculated in the same way, with *inland* consumption shown separately because of the increasing exports. (Corrections for the inclusion of New Year's Day in the December figures and the early Easter were made by using assumptions described in the October issue.)

SEASONALLY CORRECTED COAL PRODUCTION AND CONSUMPTION

(Annual rates, in millions of tons)

| | 1947 | | | | 1948 | | | |
|---|---|---|---|---|---|---|---|---|
| | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr.* |
| Total production † ... ... | 192 | 199 | 210 | 211 | 208 | 209 | 210 | (210) |
| Total consumption ... | 187 | 191 | 196 | 201 | 196 | 206 | 201 | (208) |
| Inland consumption ... | 180 | 186 | 190 | 195 | 188 | 196 | 191 | (192) |

* Provisional. † Mined and opencast.

September production was lowered by strikes, and the jump in November shows the effect of the miners' agreement to work longer hours. Since then output has been maintained at a rate which promises the achievement of this year's target of 211 million tons,[2] and an excess if the long-term trend of improvement is maintained.[3] The difference between total production and total consumption shows that the seasonally corrected stock level has been rising, up to April, or to put it another way, actual stocks have been falling far more slowly than they usually do in winter months. Seasonally corrected total stocks (corresponding to end-October levels) at the end of March were about 21 million tons, or 3½ million tons higher than at the end of October, which indicates that stocks of 20 million tons for the coming winter are quite compatible with the present levels of production and consumption.

The rise in corrected inland consumption is marked. Despite the milder weather, inland consumption has been running at a slightly higher rate than the previous winter, showing the effect of the easing of restrictions.[4] The difference between Total Consumption and Inland Consumption is due to ' overseas shipments and bunkers ', the rate of which has also been rising sharply. Since there is now no need to maintain a gap between corrected production and total consumption rates (because of the stock position), it should be possible to increase overseas shipments substantially in the coming months.

This series will in future be shown in the United Kingdom table in the Tabular Appendix, because the weekly averages which are published have little significance until they are corrected for seasonal fluctuations.

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[1] Vol. 9, pp. 340–2. [2] *Economic Survey*, p. 23.

[3] Though recently, as can be seen from the table, there has been no increase in corrected output rates.

[4] Delivery by merchants to domestic consumers counts as ' consumption ', so that the high level of ' consumption ' for some months may be due to domestic stocks rising rather than to high usage.

# TABULAR APPENDIX

## EDITORIAL NOTE

The following tables illustrate the economic developments in U.S.A. and individual European countries by presenting the trend of production, prices and foreign trade in recent months compared with typical war and pre-war years.

*Explanation of symbols :*

… the figure is not available.
( ) figures provisional or approximate.
— figure is negligible.

TABLE I. UNITED STATES

| Index Nos. 1935–39=100[1] | Monthly Averages[8] 1941 | 1945 | 1946 | 1947[9] | 1947 June | Nov. | Dec. | 1948 Jan. | Feb. | Mar. |
|---|---|---|---|---|---|---|---|---|---|---|
| Personal Incomes. $[2] ... ... | 95.3 | 171.6 | 177.2 | 196.6 | 194.1 | 204.2 | 210.4 | 211.4 | 207.1 | ... |
| Consumption Expenditures, bill.$[3] | 82.3 | 121.7 | 143.7 | 164.4 | 162.3 | ... | 172.5 | ... | ... | ... |
| Dept. Store Sales— | | | | | | | | | | |
| Value Index ... ... ... | 133 | 207 | 264 | 285 | 290 | 301 | 303 | 284 | 283 | 285[9] |
| Vol. Index of Farm Marketings[4] | 116 | 140 | 139 | 147 | 138 | 160 | 151 | 134 | 109 | ... |
| Employment,[5] millions ... ... | 36.2 | 40.0 | 40.7 | 42.5 | 42.3 | 43.5 | 44.1 | 43.0 | 42.7[9] | ... |
| Unemployment, millions ... ... | 5.0 | 1.1 | 2.3 | 2.1 | 2.6 | 1.6 | 1.6 | 2.1 | 2.6 | 2.4 |
| Building Contr. Awarded— | | | | | | | | | | |
| Value Index ... ... ... | 213 | 119 | 266 | 276 | 237 | 336 | 343 | 333 | 336 | ... |
| Vol. Index[6] ... ... ... | 183 | 86 | 168 | ... | 130 | 173 | 176 | 170 | 171[9] | ... |
| Ind. Production Index— | | | | | | | | | | |
| Durable ... ... ... ... | 201 | 274 | 192 | 220 | 219 | 224 | 229 | 229 | 227[9] | ... |
| Non-durable ... ... ... | 142 | 166 | 165 | 172 | 168 | 179 | 173 | 177 | 180[9] | ... |
| Minerals ... ... ... ... | 125 | 137 | 134 | 149 | 148 | 155 | 155 | 154 | 155[9] | ... |
| Manuf. Orders—Index[7] ... ... | 203 | 189 | 211 | ... | 245 | 267 | 252 | ... | ... | ... |
| Manuf. Inventories— Index[7] ... ... ... ... | 136 | 165 | 181 | 226 | 228 | 237 | 238 | ... | ... | ... |
| Wholesale Price Index— | | | | | | | | | | |
| Farm Products ... ... ... | 108 | 169 | 198 | 239 | 235 | 248 | 259 | 263 | 244 | ... |
| Foods ... ... ... ... | 105 | 134 | 165 | 213 | 205 | 225 | 226 | 228 | 218 | ... |
| All others ... ... ... | 110 | 123 | 135 | 166 | 162 | 176 | 180 | 183 | 182 | ... |
| Cost of Living Index ... ... | 105 | 128 | 139 | 159 | 157 | 165 | 167 | 169 | 168 | 167 |
| Factory Av. Hourly Earngs., cts. | 73 | 102 | 108 | 122 | 123 | 127 | 128 | 129 | 129 | 129 |
| Imports, Total Mill. $ ... ... | 279 | 344 | 410 | 478 | 463 | 455 | 601 | 546 | 582 | 666 |
| from Europe, Mill. $ ... ... | 24 | ... | 66 | ... | 69 | 67 | 79 | 77 | ... | ... |
| Exports, Total Mill. $ ... ... | 427 | 820 | 812 | 1206 | 1320 | 1195 | 1199 | 1091 | 1086 | 1141 |
| to Europe, Mill. $ ... ... | 128 | ... | 342 | ... | 401 | 404 | 403 | 401 | ... | ... |

*Sources* : *Bureau of the Census* for Unemployment ; *U.S. Department of Commerce* for Income Payments, Consumer Expenditures, Farm Marketings, Manufacturers' Orders and Inventories, and Foreign Trade ; *U.S. Department of Labor* for Employment, Prices and Wages ; *Federal Reserve Board* for Department Store Sales, Building Contracts and Industrial Production.

[1] All index numbers, except those of prices and of manufacturers' orders, inventories and farm marketings, are adjusted for seasonal variations.

[2] Seasonally adjusted at annual rates. [3] Quarterly figures, seasonally adjusted at annual rates.

[4] The monthly figures are no longer seasonally adjusted.

[5] All employees in non-agricultural establishments, unadjusted figure.

[6] Value Index deflated with the (Engineering News Record) Index of Construction.

[7] 1939=100. [8] Partly revised. [9] Preliminary figures.

### TABLE II. UNITED KINGDOM[1]

| | Unit | Monthly Averages | | | | 1947 | | 1948 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 1938 | 1945 | 1946 | 1947 | June | Dec. | Jan. | Feb. | Mar. |
| Production of— | | | | | | | | | | |
| Coal (weekly av.) ... | Mill tons | 4.4 | 3.5 | 3.6 | 3.8 | 3.9[2] | 3.8[2] | 4.1 | 4.1 | 3.9[2] |
| Steel (weekly av.) ... | 000 tons | 200 | 227 | 244 | 240 | 254 | 243[2] | 281 | 289 | 291[2] |
| Cement ... ... | 000 tons | 643 | 338 | 548 | 580 | 586 | 654[9] | 693[9] | 599 | 654 |
| *Bricks ... ... ... | Millions | 650 | 102 | 288 | 378 | 400 | 388 | 386 | 361 | 397 |
| Passenger Cars... ... | Thousands | 28.0 | 1.4 | 18.3 | 23.9 | 29.3[9] | 25.0[9] | 25.2 | 23.4 | 32.3[9] |
| Comm. Vehicles ... | ,, | 8.8 | 10.2 | 12.2 | 12.9 | 14.8[9] | 15.7[9] | 13.7 | 11.9 | 15.1[9] |
| Merchant Vessels[3] ... | Mill. gr. tons | 0.8 | 1.46 | 1.76 | 1.94 | 1.86 | 1.94 | 1.98 | 1.94 | 1.95 |
| Cotton Yarn (wkly. av.)[10] | Mill. lb | 23.7[11] | 11.48 | 12.73 | 12.73 | 12.56 | 13.48 | 14.60[2] | 15.57 | 14.58 |
| Rayon[12]... ... ... | ,, | 8.52 | 7.09 | 8.97 | 9.90 | 10.03 | 11.13 | 12.24 | 11.53 | 11.90 |
| Electricity ... ... | 000 mill. kwh | 2.0 | 3.1 | 3.4 | 3.5 | 2.8 | 4.4 | 4.5 | 4.2 | 4.0 |
| Gas weekly av.) ... | Mill. therm | 31.9 | 39.1 | 42.4 | 43.9 | 36.7[2] | 51.4[2] | 51.7 | 52.4 | 47.6[2] |
| *Perm. Houses[4] ... | Thousands | 30.0 | 0.22 | 4.12 | 10.53 | 10.80 | 16.23 | 13.73 | 14.41 | 18.33 |
| *Employment total[5] ... | Millions | 17.9 | 18.3 | 17.3 | 18.6 | 18.6 | 18.8 | 18.8 | 18.9 | 18.9 |
| *Manuf. Ind. ... ... | ,, | 6.8 | 6.8 | 6.6 | 7.1 | 7.1 | 7.3 | 7.3 | 7.3 | 7.3 |
| *Manuf. Exports ... | ,, | 1.0 | 0.41 | 1.31 | 1.53 | 1.53 | 1.94 | 1.96 | 1.98 | 1.99 |
| *Unemployment[6]... ... | Thousands | 1688 | 103 | 359 | 256 | 272 | 277 | 318[13] | 315 | 299 |
| *Retail sales (weekly) ... | 1938=100 | 100 | 116 | 137 | 155 | 147 | 190 | 151 | 156 | 171 |
| Wholesale Prices— | | | | | | | | | | |
| Food and Tobacco ... | ,, | 100 | 163 | 163 | 169 | 171 | 176 | 179 | 186 | 186 |
| Ind. Prod. ... ... | ,, | 100 | 169 | 178 | 200 | 196 | 214 | 227 | 229 | 231 |
| Cost of Living[7] ... ... | ,, | 100 | 130 | 130 | 130[14] | 130 | ... | ... | ... | ... |
| Retail Prices ... ... | June 1947=100 | ... | ... | ... | 100[15] | 100 | 104 | 104 | 106 | 106 |
| Weekly Wage Rates ... | Sept. 1939=100 | ... | 150 | 162 | 168 | 167 | 173 | 174 | 174 | 175 |
| Retained Imports ... | £ Mill. | 77 | 92 | 108 | 149 | 154 | 153 | 162 | 148 | 178 |
| U.K. Exports ... ... | ,, | 39 | 33 | 76 | 95 | 93 | 110 | 120 | 113 | 121 |
| Terms of Trade[8] ... | 1938=100 | 100 | 93 | 95 | 94 | 93 | 93 | 91 | 90 | 90 |

*Sources* : Monthly Digest of Statistics ; Ministry of Labour Gazette ; Board of Trade Journal.

[1] Figures for items marked * refer to Great Britain. [2] Average of five weeks.

[3] Tonnage under construction at end of period, 100 gross tons and over. [4] Completed.

[5] Including employers and self-employed, but excluding Forces, Auxiliary Services, Civil Defence, Police and private domestic service. All annual employment figures refer to mid-year.

[6] Number of insured workers registered as wholly unemployed or temporarily stopped. Mid-yearly (mid-July), or mid-monthly figures.

[7] Discontinued in July 1948. [8] Ratio of export prices to import levels.

[9] Five week period (Cement : December 4 weeks and 3 days ; January 4 weeks and 4 days).

[10] Excluding staple fibre, mixed and waste yarns. [11] 1937. [12] Excluding staple fibre.

[13] Including 8,000 males classified as unsuitable for ordinary employment, previously excluded from these figures.

[14] June 17th, 1947 ; the last date for which this cost of living index was compiled. [15] June 17th.

## TABLE III. FRANCE

| | Unit | Monthly Averages | | | | 1947 | | | 1948 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1938 | 1945 | 1946 | 1947 | June | Nov. | Dec. | Jan. | Feb. | Mar. |
| Production of— | | | | | | | | | | | |
| Coal[1] ... ... | Mill. m. tons | 4.0 | 2.8 | 3.9 | 3.8 | 3.4 | 2.4 | 3.1 | 4.8 | 4.3 | 4.5 |
| Electricity ... | 000 Mill. kwh | 1.5 | 1.5 | 1.8 | 2.1 | 2.0 | 2.0 | 2.2 | 2.4 | 2.3 | 2.3 |
| Steel ... ... | Mill. m. tons | 518 | 136 | 367 | 479 | 463 | 416 | 408 | 552 | 564 | 626 |
| Cement ... | 000 m. tons | 296 | 127 | 281 | 321 | 355 | 312 | 257 | 357 | 386 | 415 |
| Comm. Vehicles | Thousands | 3.3 | 2.7 | 5.2 | 5.6 | 5.4 | 3.8 | 4.7 | 7.7 | 7.4 | 8.1 |
| Passenger Cars... | ,, | 15.2 | 0.1 | 2.5 | 5.5 | 4.8 | 4.5 | 5.2 | 7.4 | 7.3 | 8.0 |
| Cotton Fabrics... | 000 m. tons | 12.1 | 2.7 | 8.4 | 11.2 | 11.5 | 11.7 | 12.2 | 13.0 | 12.4 | 12.4 |
| Building plans[2] ... | 000 cbm | 706 | 155 | 413 | 647 | 702 | 886 | 559 | 332 | ... | ... |
| Wagons ldgs. (dly.) | Thousands | 41 | 17 | 31 | 35 | 31 | 33 | 31 | 39 | 39 | 40 |
| Unemployment[3] | ,, | 373.6 | 15.8 | 15.7 | 7.4 | 6.7 | 6.3 | 7.6 | 9.3 | 10.3 | ... |
| Wholesale Prices | 1938=100 | 100 | 373 | 648 | 989 | 904 | 1211 | 1217 | 1463 | 1537 | 1536 |
| Retail Prices[4] ... | ,, | 100 | 393 | 645 | 1030 | 935 | 1336 | 1354 | 1414 | 1519 | 1499 |
| Imports ... ... | 00 m. frs. | 3.8 | 4.8 | 19.5 | 28.9 | 29.9 | 29.3 | 34.9 | ... | 25.7[5] | 50.1 |
| Exports ... ... | ,, | 2.5 | 1.0 | 8.5 | 17.8 | 19.7 | 18.2 | 21.5 | ... | 11.1[5] | 33.3 |

*Source*: Bulletin de la Statisque Générale de la France.

[1] Including lignite. [2] In Paris and 98 towns. [3] Unemployed on relief. [4] Retail prices in Paris of 34 articles.
[5] Average, January–February.

## TABLE IV. BELGIUM

| | Unit | Monthly Averages | | | | 1947 | | | 1948 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1939 | 1945 | 1946 | 1947 | June | Nov. | Dec. | Jan. | Feb. | Mar. |
| Production— | | | | | | | | | | | |
| Total Industry ... | 1936–38=100 | 95 | 34 | 80 | 95 | 94 | 103 | 101 | 103 | ... | ... |
| Coal ... ... | Mill. m. tons | 2.5 | 1.3 | 1.9 | 2.0 | 2.01 | 1.91 | 2.07 | 2.24 | 1.75 | 2.29 |
| Steel ... ... | 000 m. tons | 252 | 61 | 190 | 241 | 232 | 265 | 296 | 314 | 293 | ... |
| Cement ... | ,, | 213 | 54 | 157 | 217 | 198 | 264 | 263 | 271 | 255 | ... |
| Electricity ... | Mill. kwh | 466 | 382 | 520 | 601 | 550 | 646 | 698 | 703 | 631 | ... |
| Textile Ind. ... | 1938=100 | 113 | 38 | 92 | 110 | 109 | 107 | 113 | 113 | 113 | ... |
| Paper Ind. ... | ,, | 120 | 26 | 109 | 132 | 135 | 138 | 149 | 144 | 122 | ... |
| Building Activity[1] | Thousands | 2.7 | 1.1 | 2.4 | 3.0 | 4.5 | 2.4 | 2.3 | 2.2 | 2.8 | ... |
| Unemployment[2] | ,, | 195 | 145 | 67 | 68 | 46 | 61 | 97 | 105 | 136 | ... |
| Retail Prices ... | 1936–38=100 | 106 | 329 | 334 | 343 | 334 | 359 | 364 | 366 | 387 | ... |
| Imports ... ... | 000 mill. frs. | 1.6 | 1.1 | 4.4 | 7.1 | 6.4 | 9.4 | 10.7 | 7.4 | 6.5 | ... |
| Exports ... ... | ,, | 1.8 | 0.3 | 2.5 | 5.1 | 5.8 | 5.5 | 5.6 | 6.2 | 5.2 | ... |

*Source*: Institut National de Statistique; Banque Nationale de Belgique.

[1] Number of units newly constructed ard reconstructed. [2] Daily average of registered unemployed.

### TABLE V. NETHERLANDS

| | Unit | Monthly Averages 1939 | 1945 | 1946 | 1947 | 1947 June | Nov. | Dec. | 1948 Jan. | Feb. | Mar. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Production— | | | | | | | | | | | |
| Coal ... ... | 000 m. tons | 1072 | 424 | 693 | 842 | 829 | 844 | 802 | 954 | 869 | 953 |
| Electricity ... | Mill. kwh. | 223 | 93 | 225 | 283 | 232 | 344 | 377 | 385 | 342 | ... |
| Bricks ... | Millions | 84.1 | 7.6 | 45.3 | 60.0 | 47.8 | 76.9 | 83.9 | 79.4 | 78.1 | ... |
| Cement ... | 000 m. tons | 45.1 | 21.2 | 33.6 | 43.3 | 52.0 | 47.5 | 44.9 | 46.7 | 47.3 | ... |
| Butter ... | 000 m. tons | 9 | 3.2 | 4.4 | 4.4 | 7.5 | 3.0 | 3.2 | 2.9 | 2.3 | ... |
| Cheese ... ... | 000 m. tons | 10.1 | 3.1 | 5.4 | 5.6 | 10.7 | 4.4 | 2.4 | 1.5 | 1.7 | ... |
| Unemployed: ... | Thousands | 235.6 | ... | 53.1 | 30.7 | 19.7 | 24.6 | 30.6 | ... | ... | ... |
| Retail trade[2] ... | 1938=100 | 113 | ... | 151 | 209 | 187 | 290 | 250 | 222 | 188 | 230 |
| Cost of living ... | 1937=100 | 102 | ... | 193 | | 203 | 198 | ... | ... | ... | ... |
| Wage rates— | | | | | | | | | | ... | ... |
| Industry ... | 1938–39=100 | 101 | 131 | 165 | 167 | 166 | 172 | 173 | ... | ... | ... |
| Agriculture ... | ,, | 100 | 225[3] | 241 | | 244 | ... | ... | ... | ... | ... |
| Imports ... ... | Mill. fl. | 126 | ... | 179 | 354 | 470 | 409 | 431 | 418 | 369 | ... |
| Exports ... ... | ,, | 81 | 16 | 65 | 155 | 121 | 202 | 235 | 287 | 232 | ... |

*Source* : Centraal Bureau voor de Statistiek ; Rotterdamsche Bankvereeniging.

[1] Registered wholly unemployed excluding public relief workers.

[2] Value of turnover of department and chain stores. [3] December.

### TABLE VI. DENMARK

| Index Nos. 1938=100 | Unit | Monthly Averages 1939 | 1945 | 1946 | 1947 | 1947 June | Dec. | 1948 Jan. | Feb. | Mar. |
|---|---|---|---|---|---|---|---|---|---|---|
| Production— | | | | | | | | | | |
| Industrial[1] ... ... | Index | 105 | 74 | 101 | 112 | 109 | 120 | 123 | 125 | 124 |
| Animal prod. ... | ,, | 101 | 68 | 76 | 75 | 86 | 69 | 72 | 64 | 65 |
| Butter ... ... ... | 000 m. tons | 15.2 | 11.0 | 11.7 | 10.4 | 13.7 | 8.1 | 8.3 | 7.4 | 8.6 |
| Meat (pork) ... ... | ,, | 27.4 | 15.1 | 16.3 | 16.9 | 18.2 | 21.9 | 18.5 | 14.9 | 16.7 |
| Electricity ... ... | Mill. kwh | 69[2] | 76 | 98 | 115 | 96 | 142 | 146 | 128 | 125 |
| Wholesale prices ... ... | Index | 105 | 190 | 188 | 207 | 205 | 216 | 216 | 217 | 218 |
| Cost of living ... ... | ,, | 101 | 159 | 158 | 162 | ... | ... | 164 | ... | ... |
| Imports ... ... ... | Mill. kr. | 145 | 58 | 237 | 257 | 367 | 294 | 232 | 220 | 225 |
| Exports ... ... ... | ,, | 132 | 75 | 135 | 193 | 190 | 263 | 186 | 262 | 240 |

*Source* : Danmarks Statistics, Statistiske Efterretninger ; United Nations Monthly Bulletin of Statistics.

[1] Revised Series. [2] 1938.

## TABLE VII. NORWAY

| Index Nos. 1938=100 | Unit | Monthly Averages 1939 | 1945 | 1946 | 1947 | 1947 June | Nov. | Dec. | 1948 Jan. | Feb. | Mar. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ind. Prod. ... | Index | 107 | 69 | 100 | 115 | 122 | 124 | 115 | 117 | 132 | ... |
| Unemployment[1] ... | Thousands | ... | 9.2 | 12.2 | 8.5 | 3.6 | 8.2 | 12.1 | 16.2 | 18.1 | ... |
| Electricity gen. ... | Mill. kwh | 851 | 820 | 938 | 938 | 934 | 902 | 912 | 925 | 875 | ... |
| Retail turnover | Value Ind. | 105 | 120 | 182 | 223 | 231 | 227 | 290 | ... | ... | ... |
| Cost of living ... | Index | 102 | 156 | 159 | 160 | 162 | 157 | 158 | 158 | 159 | 160 |
| Imports ... ... | Mill. kr. | 114 | 100 | 183 | 318 | 385 | 254 | 309 | 245 | 255 | ... |
| Exports ... ... | ,, | 67 | 27 | 100 | 151 | 239 | 157 | 156 | 154 | 164 | ... |

*Source* : Central Bureau of Statistics.

[1] Employment Exchange Returns.

## TABLE VIII. SWEDEN

| Index Nos. 1939=100 | Unit | Monthly Averages 1939 | 1945 | 1946 | 1947 | 1947 June | Nov. | Dec. | 1948 Jan. | Feb. | Mar. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ind. Production ... | Index | 100 | 85 | 103 | 105 | 106 | 104 | 104 | 104 | 103 | 106 |
| Ind. Employment[1] | ,, | 100 | 101 | 113 | ... | 111 | ... | ... | ... | ... | ... |
| Unemployment[2] | Per cent | 9.2 | 4.5 | 3.2 | 2.8 | 1.8 | 2.4 | 4.5 | 4.3 | ... | ... |
| Steel Production | 000 m. tons | 99 | 100 | 101 | 99 | 95 | 99 | 117 | 103 | 107 | ... |
| Cost of living ... | Index | 100 | 143 | 143 | 150 | 151[3] | ... | 154[3] | ... | ... | ... |
| Imports ... ... | Mill. kr. | 208 | 90 | 281 | 431 | 467 | 431 | 391 | 418 | 369 | ... |
| Exports ... ... | ,, | 157 | 146 | 211 | 268 | 295 | 311 | 352 | 287 | 232 | ... |

*Source* : Index, Svenska Handelsbanken ; Quarterly Review, Skandinaviska Banken ; United Nations, Monthly Bulletin.

[1] Including mining. [2] Percentage of trade union membership. [3] Refers to end of quarter.

### TABLE IX. SWITZERLAND

| Index Nos. 1938=100 | Unit | Monthly Averages 1938 | 1945 | 1946 | 1947 | 1947 June | Sept. | Oct. | Nov. | Dec. | 1948 Jan. | Feb. | Mar. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Employment— | Quart. | | | | | | | | | | | | |
| All Industries ... ... | Index | 100 | 110 | 123 | 134 | 133 | 135 | ... | ... | 136 | ... | ... | ... |
| Building ... ... | ,, | 100 | 89 | 108 | 119 | 129 | 136 | ... | ... | 101 | ... | ... | 117 |
| Metal Ind. ... ... | ,, | 100 | 122 | 137 | 147 | 146 | 149 | ... | ... | 150 | ... | ... | 152 |
| Chemical Ind. ... | ,, | 100 | 130 | 157 | 174 | 173 | 177 | ... | ... | 178 | ... | ... | 170 |
| Cotton ... ... ... | ,, | 100 | 76 | 87 | 97 | 95 | 98 | ... | ... | 100 | ... | ... | 100 |
| Food Ind. ... ... | ,, | 100 | 106 | 120 | 129 | 126 | 130 | ... | ... | 134 | ... | ... | 132 |
| Electricity gen.[1] ... ... | Mill. kwh. | 448 | 666 | 696 | 651 | 750 | 649 | 590 | 564 | 631 | 687 | 715 | 680 |
| Building permits : | | | | | | | | | | | | | |
| New Flats ... ... | Numbers | 703 | 752 | 1043 | 1261 | 1107 | 829 | 1191 | 2018 | 1096 | 874 | 898 | 700 |
| Factories[2] ... ... | ,, | 93 | 167 | 267 | 281 | 291[3] | 289[5] | ... | ... | 269[6] | ... | ... | ... |
| Tourism[7] ... ... ... | Thousands | 630 | 264 | 506 | 703 | 839 | 859 | 459 | 358 | 442 | 502 | 547 | ... |
| Cost of living ... ... | Index: | 100 | 152 | 152 | 159 | 159 | 159 | 163 | 163 | 163 | 164 | 163 | 163 |
| Imports ... ... ... | Mill. frs. | 134 | 102 | 285 | 402 | 379 | 386 | 441 | 481 | 516 | 486 | 419 | 472 |
| Exports ... ... ... | ,, | 110 | 123 | 223 | 272 | 299 | 282 | 292 | 271 | 337 | 225 | 239 | 282 |

*Source* : Schweiz. Nationalbank ; Departement Federal de l'Economie Publique.

[1] Public power stations. [2] Including extensions and structural changes. [3] Monthly average, 2nd quarter.

[4] Number of nights spent by foreign tourists in Swiss hotels and sanatoria (000).

[5] Monthly average, 3 rd quarter. [6] Monthly average, 4th quarter. [7] Aug. 1939=100.

### TABLE X. ITALY

| | Unit | Monthly Averages 1939 | 1945 | 1946 | 1947 | 1947 June | Nov. | Dec. | 1948 Jan. | Feb. | Mar. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Electricity Prod. | 000 m. kwh. | 1.3 | 0.9 | 1.3 | 1.5 | 1.8 | 1.4 | 1.5 | 1.5 | 1.4 | ... |
| Steel Prod. ... | 000 m. tons | 190 | 33 | 96 | 142 | 159 | 156 | 143 | 142 | ... | ... |
| Coal Imports ... | 000 m. tons | 1100[1] | ... | 353[2] | 749 | 1020 | 683 | 759 | 673 | 403 | 777 |
| Unemployment ... | Millions | ... | ... | 1.7 | 2.0 | 2.0 | 1.8 | 1.8 | ... | ... | ... |
| Cost of living ... | 1938=100 | ... | ... | ... | 4575 | 4655 | 5084 | 4921 | 4838 | ... | ... |
| Imports[3] ... ... | 000 m. lire | 0.9 | ... | 7.6 | ... | 39.4 | 43.7 | ... | | ... | ... |
| Exports ... ... | ,, | 0.9 | ... | 5.4 | ... | 13.9 | 20.8 | ... | ... | ... | ... |

*Source* : Instituto Centrale di Statistica ; United Nations Monthly Bulletin of Statistics.

[1] Average 1935, 1937 and 1938. [2] Average April–December. [3] Including U.N.R.R.A.

## TABLE XI. FINLAND

| Index Nos. 1939=100 | Unit | Monthly Averages 1939 | 1945 | 1946 | 1947 | 1947 June | Nov. | Dec. | 1948 Jan. | Feb. |
|---|---|---|---|---|---|---|---|---|---|---|
| Production— | | | | | | | | | | |
| Home Ind.[1] ... ... | Index | 100 | 56 | 75 | 91 | 84 | 111 | 111 | ... | ... |
| Export Ind.[1] ... ... | ,, | 100 | 51 | 69 | 84 | 86 | 81 | 84 | ... | ... |
| Electricity ... ... | Mill. kwh. | 259 | 247 | 244 | 233 | 222 | 236 | 213 | 229 | 219 |
| Cement (Consump.) ... | Index | 100 | 52 | 60 | ... | 53 | ... | ... | ... | ... |
| Wholes. Prices ... ... | ,, | 100 | 365 | 571 | 690 | 652 | 810 | 845 | 858 | 864 |
| Cost of living ... ... | 1938–9=100 | 101 | 282 | 450 | 584 | 567 | 690 | 720 | 761 | ... |
| Imports ... ... ... | Mill. Mark. | 631 | 568 | 2023 | 3907 | 3939 | 4970 | 7078 | 3958 | 4282 |
| Comm. Exports ... ... | ,, ,, | 643 | 436 | 1921 | 3768 | 4583 | 5017 | 3779 | 2504 | 3354 |
| Reparation Deliv. ... | ,, ,, | ... | 685 | 731 | 867 | 1129 | 907 | 919 | ... | ... |

*Source* : Unitas, Quarterly Review of Trade Conditions in Finland ; Monthly Bulletin, Bank of Finland.

[1] Volume Index.

## TABLE XII. POLAND

| | Unit | Monthly Averages 1938[1] | 1945 | 1946 | 1947 | 1947 June | Nov. | Dec. | 1948 Jan. | Feb. | Mar. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Production— | | | | | | | | | | | |
| Coal ... ... | Mill. m. tons | 3.2 | 2.0 | 3.9 | 4.9 | 4.6 | 5.4 | 5.2 | 5.7 | 5.2 | 5.8 |
| Pig Iron ... | 000 m. tons | 74 | 21 | 61 | 72 | 71 | 83 | 85 | 86 | ... | ... |
| Steel ... ... | ,, | 120 | 45 | 102 | 132 | 127 | 148 | 140 | 155 | ... | ... |
| Cement ... | ,, | 143 | 33 | 117 | 127 | 160 | 144 | 113 | 67 | ... | ... |
| Glass ... ... | ,, | 2.1 | 3.5 | 3.4 | 3.7 | 2.4 | 4.4 | 4.7 | 4.7 | ... | ... |
| Paper ... ... | ,, | 17.1 | 3.4 | 12.4 | 17.2 | 17.6 | 18.9 | 19.0 | ... | ... | ... |
| Electricity ... | Mill. kwh. | 319 | 418 | 476 | 551 | 494 | 624 | 627 | 639 | ... | ... |
| Cost of living[2] | Index[2] | ... | 77[3] | 96 | 133 | 144 | 137 | 141 | ... | ... | ... |

*Source* : Central Statistical Office of the Republic of Poland.

[1] Pre-war frontiers.

[2] At Warsaw ; base : April 1945=100. The calculation is based on free-market prices supplied by the Municipality.

[3] Average April–December.

## TABLE XIII. CZECHOSLOVAKIA

| | Unit | Monthly Averages 1939 | 1945 | 1946 | 1947 | 1947 June | Nov. | Dec. | 1948 Jan. | Feb. | Mar. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Production— | | | | | | | | | | | |
| Coal ... ... | 000 m. tons | 1398 | 952 | 1181 | 1351 | 1242 | 1441 | 1436 | 1488 | 1411 | 1583 |
| Electricity ... | Mill. kwh. | 334 | 341 | 464 | 555 | 514 | 626 | 611 | 633 | 596 | 629 |
| Pig Iron ... | 000 m. tons | 134 | 48 | 80 | 119 | 123 | 117 | 121 | 130 | 128 | 140 |
| Wholesale Prices[1] | Jan.–Mar. 1939=100 | ... | 154 | 284 | 301 | 295 | 305 | 306 | 309 | 309 | 310 |
| Cost of living[2] ... | 1939=100 | 100 | 168 | 305 | (295) | 296 | 286 | 289 | 291 | 290 | ... |
| Imports ... ... | Mill. Kr. | 915 | 76 [3] | 853 | 2388 | 2693 | 2452 | 3276 | 4168 | 3604 | 3446 |
| Exports ... ... | „ „ | 996 | 49[3] | 1195 | 2384 | 2479 | 2699 | 3677 | 2364 | 2382 | 2859 |

*Source* : Zivnostenka Banka, U.N. Monthly Bulletin. Statistic Bulletin of Czechoslovakia.

[1] Bohemia, Moravia and Silesia ; from January 1946, some products of Slovakia.

[2] At Prague (March 1939=100).

[3] May to December.

## TABLE XIV. HUNGARY

| | Unit | Monthly Averages 1939 | 1945 | 1946 | 1947 | 1947 June | Nov. | Dec. | 1948 Jan. | Feb. |
|---|---|---|---|---|---|---|---|---|---|---|
| Production— | | | | | | | | | | |
| Hard Coal ... ... | 000 m. tons | 192 | 58 | 60 | 88 | 81 | 102 | 105 | 120 | 99 |
| Lignite ... ... | „ | 784 | 343 | 466 | 646 | 580 | 769 | 753 | 901 | 780 |
| Pig Iron ... ... | „ | 34 | 2 | 13 | 25 | 28 | 26 | 24 | 26 | 29 |
| Bauxite ... ... | „ | 45 | ... | 8 | ... | 37 | ... | ... | ... | ... |
| Petroleum ... ... | „ | 3.6 | 58 | 57 | 48 | 48 | 42 | 43 | 43 | 39 |
| Wagon ldgs. ... ... | Thousands | 114 | ... | 47 | ... | 88 | ... | ... | ... | ... |
| Cost of living[1] ... ... | 1937=100 | 99 | ... | ... | 436 | 476 | 519 | 496 | 487 | 502 |
| Imports[2] ... ... | Mill. fl. | 119 | ... | 31 | 122 | 125 | 145 | 134 | 163 | 199 |
| Exports[3] ... ... ... | „ „ | 152 | ... | 35 | 87 | 92 | 123 | 152 | 129 | 117 |

*Source* : Office Central Hongrois de Statistique.

[1] At Budapest.

[2] Excluding U.N.R.A.A. imports.

[3] Excluding reparation deliveries.

### TABLE XV. BULGARIA

| Index Nos. 1939=100 | Unit | 1939 | Monthly Averages 1945 | 1946 | 1947 | 1947 June | Nov. | Dec. | 1948 Jan. | Feb. |
|---|---|---|---|---|---|---|---|---|---|---|
| Industrial Prod. | Index | 100 | 112 | 115 | 133 | 144 | 164 | 145 | 122 | 129 |
| Investment Goods ... | ,, | 100 | 88 | 115 | 132 | 167 | 108 | 110 | ... | ... |
| Food Ind. ... ... | ,, | 100 | 96 | 99 | 81 | 52 | 211 | 93 | ... | ... |
| Other Cons. Ind. | ,, | 100 | 118 | 118 | 144 | 157 | 162 | 160 | ... | ... |
| Electricity gen. ... ... | Mill. kwh. | 22 | 33 | 36 | 40 | 37 | 44 | 49 | 45 | 44 |
| Wholesale prices ... ... | Index | 100 | 550 | 627 | 714 | 687 | 802 | 809 | ... | ... |
| Cost of living ... ... | ,, | 100 | 509 | 573 | 40 | 631 | 666 | 669 | ... | ... |
| Imports ... ... ... | Mill. leva | 433 | 485 | 1460 | 1785 | 1012 | 1987 | 3339 | 2305 | 3163 |
| Exports ... ... ... | ,, ,, | 505 | 1033 | 1245 | 2044 | 3093 | 2837 | 3558 | 1586 | 3421 |

*Source* : Direction Générale de la Statistique, Bulletin Mensuel (Sofia).

### TABLE XVI. GERMANY (BRITISH ZONE)

| | Unit | Monthly Averages 1936 | 1946 | 1947 | 1947 June | Oct. | Nov. | Dec. | 1948 Jan. | Feb. |
|---|---|---|---|---|---|---|---|---|---|---|
| Ind. Production ... ... | 1936=100 | 100 | 31 | 35 | 34 | 40 | 40 | 40 | 40 | (40) |
| Prod. Goods[1] ... ... | ,, | 100 | 36 | 39 | 38 | 44 | 45 | 45 | 44.7 | 44.5 |
| Cons. Goods ... ... | ,, | 100 | 21 | 23 | 24 | 27 | 26 | 26 | 29 | 29 |
| Prod. of— | | | | | | | | | | |
| Coal (daily) ... ... | 000 tons | 390 | 178 | 234 | 218 | 247 | 280 | 262 | 255 | 268 |
| Steel ... ... ... | ,, | 1156 | 194 | 229 | 205 | 288 | 268 | 265 | 282 | 277 |
| Cement ... ... | ,, | 445 | 107 | 131 | 141 | 162 | 157 | 129 | 123 | 159 |
| Potash ... ... ... | ,, | 31 | 17.8 | 16.4 | 18.2 | 20.6 | 18.9 | 19.6 | 22.9 | 20.5 |
| Cotton Yarn ... ... | ,, | 10.5[2] | 1.7 | 2.6 | 2.5 | 3.1 | 2.9 | 3.0 | 3.3 | 33 |
| Electricity gen. ... ... | Mill. kwh. | ... | 827 | 977 | 864 | 1097 | 1070 | 1157 | 1151 | 1056 |
| Imports Bizonal[3] ... | Mill. $ | ... | ... | 5.4 | 1.3 | ... | 1.2 | 5.9 | 0.5 | 7.5 |
| Exports Bizonal[4] ... | ,, ,, | ... | 13.0 | 20.9[5] | 12.9 | 28.7 | 29.9 | 27.9 | 27.1 | 37.2 |

*Source* : Statistical Bulletin of the Control Commission for Grmany (British Element).

[1] Incl. investment goods (iron and steel, foundry products, vehicles, building materials, etc.) and producer goods for general requirements (coal, oil, gas, electricity and chemicals).

[2] Incl. some staple fibre. [3] Excl. deliveries paid for by appropriated funds.

[4] Incl. invisible exports (Monthly average 1946 : 0.637 mill. dollars). [5] Average for 10 months.

TABLE XVII. AUSTRIA

| | Unit | Monthly Averages 1937 | Monthly Averages 1946 | Monthly Averages 1947 | 1947 June | 1947 Oct. | 1947 Nov. | 1947 Dec. | 1948 Jan. | 1948 Feb. | 1948 Mar. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Prod. of— | | | | | | | | | | | |
| Hard Coal | 000 m. tons | 19.2 | 9.0 | 14.8 | 14.5 | 16.5 | 15.2 | 14.9 | 15.2 | 14.5 | 15.7 |
| Lignite | ,, | 270 | 200 | 236 | 222 | 247 | 258 | 258 | 280 | 272 | 281 |
| Pig Iron | ,, | 32.4 | 4.8 | 23.2 | 19.2 | 40.1 | 36.5 | 33.1 | 40.8 | 42.5 | 44.7 |
| Steel | ,, | 54.1 | 15.6 | 29.7 | 28.6 | 36.8 | 35.8 | 40.5 | 47.0 | 46.8 | 49.4 |
| Cement | ,, | 35.8 | 32.3 | 23.5 | 32.4 | 29.8 | 22.2 | 19.7 | 33.7 | 27.8 | ... |
| Glass | 000 sq. m. | ... | ... | 215 | 250 | ... | 251 | 368 | 297 | 294 | ... |
| Cost of living[1] | Ap. '38=100 | ... | 161 | 316 | 241 | 446 | 452 | 455 | 458 | 458 | 468 |
| Imports | 000 Schillgs. | 121.1 | 20.9 | 99.3 | 100.6 | 131.7 | 125.0 | 143.8 | 167.0 | 169.5 | ... |
| Exports | ,, | 101.4 | 18.3 | 70.2 | 74.7 | 102.9 | 116.7 | 125.2 | 87.3 | 106.9 | ... |

*Source* · Monthly Bulletin of Austrian Statistics (British Element).

[1] In Vienna.